Winter 1980-1981

The Wharton Magazine

$5.00

Low Risk Roulette: Hollywood Bets On Blockbusters

From Counting House To Modern Corporation

U.S. Senators As Managers: Life On The Run

Flexible Life Schedules: Conquering The Tyranny Of Time

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The Wharton Magazine

Winter 1980-1981 Vol 5 No 2

Wharton 1881 Centennial 1981

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Advertising: Jack Aldrich, Director of Advertising Sales, at same address. (215) 243-8999.

Publisher's Representatives: *New York:* Shippen Swift, Shippen Swift and Associates, Meeker Hill Road, Redding Ridge, CT 06876, (203) 938-3993; *New York and Stamford:* Russell Ward, National Representatives Company, 856 High Ridge Road, Stamford, CT 06905, (203) 322-5538; *Northern Connecticut and New England:* Joe DeLone, Joe DeLone and Associates, P.O. Box 271, 22 Welwyn Road, Riverside, CT 06878, (203) 637-2758; *Northern New Jersey:* Ed Walker, Coastal Trading Company, 222 Sandcastle Key, Secaucus, NJ 07094, (201) 865-6319; *Western States:* John MacKay, MacKay Advertising Sales, 681 Market Street, Room 1085, San Francisco, CA 94105, (415) 957-1575; *Southern California and Arizona:* William Muhai, Collegiate Advertising Associates, 1888 Century Park East, Suite 910, Los Angeles, CA 90067, (213) 552-1167; *Midwest:* James O. Reilly, 709 Center Street, Des Plaines, IL 60016, (312) 824-2412; *Michigan and Ohio:* John O. Peters, 404 Fisher Building, Detroit, MI 48202, (313) 872-6331.

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Subscriptions: $14 a year in the United States; $16 in Canada and Mexico; $24 (by air) in Europe and Latin America; $26 (by air) in Asia, Pacific, and Africa.
All subscription correspondence:
The Wharton Magazine, Subscription Department, P.O. Box 581, Martinsville Center, Martinsville, N.J. 08836. Printed by The Winchell Company, Philadelphia, PA. 19107. Prices for reprints and bulk orders on request.
U.S.P.S. #432950. Second-class postage paid at Philadelphia, PA. Application for Audit Bureau of Circulations Membership has been made November 1980.

The Hay Report: Part 2

International Executive Compensation

An executive would maximize his purchasing power by earning his salary in Switzerland, paying his taxes in France, and living in a middle-sized city in the United States, where his money is likely to stretch further than anywhere else.

This fourth annual report compares executive salaries in the United States with those in fourteen other major industrial countries. The Hay Group is an international management consulting organization with seventy-three offices in twenty-four countries, and clients in many more. The Hay survey data are used by companies around the world in establishing their pay practices. The authors of this report are C. Ian Sym-Smith, General Partner, and Mark S. White, Director of International Compensation.

IN the past five years there have been some significant changes in the international ranking for executive pay among the fifteen industrialized nations reported here. The ranking is based upon the dollar equivalent salaries. However, there is no change in the ranking of United States executives, who remain in the ninth position. See Table 1.

In 1975 executives in the original Common Market countries were paid approximately 30 percent more than their U.S. counterparts, whereas today they are paid in a range of 40 to 80 percent more. Among other European countries, the United Kingdom executive, who in 1975 was paid 37 percent below the U.S. level, has halved the distance and is now paid only 18 percent lower. A manager in a position at this level in Spain used to be paid 15 percent below his American equivalent, but today he is marginally ahead. A reverse trend is shown by executives in Brazil, who led the parade in 1975 (with a 47 percent premium over the United States) but have now dropped to sixth position, with their premium reduced to 18 percent.

These changes have taken place over the five-year period 1975-1980. No remarkable changes occurred in the past year, except for an ongoing downward movement of the Brazilian executive and the rapid gain made by his United Kingdom counterpart during the past twelve months.

The chart reflects what executives at different levels of management jobs were being paid in fifteen countries at the beginning of July 1980. It shows the gross base salaries, *converted into dollars* at the then-existing exchange rate. The chart does not compare their take-home pay (after taxes), nor does it necessarily reflect on their purchasing power (which can be quite different depending on taxes and inflation rates).

There are some important points to keep in mind about the chart:

- The numbers across the bottom line indicate different levels of management as represented by Hay units of job content. For example, 200 units represents a salesman, buyer, or accountant; 400 units a general foreman or project engineer; 600 units a functional departmental manager; 1,000 units a vice-president of manufacturing or corporate controller. (These units are explained in detail in the Fall 1980 issue of *The Wharton Magazine*, pages 46-47.)
- Although we are comparing base salaries, the relative picture would not be very different if we included bonuses. Only the ranking of the United States (and Canada to a lesser extent) would rise because the practice of paying bonuses is much more restricted in other countries, both as to amount and as to the number of people receiving them.
- For each country, we are reporting pay for nationals. Expatriates, a small minority, are excluded.
- In most of the countries, the participating organizations are predominantly locally owned, but there is a substantial representation of multinational companies everywhere.
- The data for each country has been converted to U.S. dollars according to the rates of exchange in July 1975 and July 1980.
- The relationships shown here cover professional and management salary levels only. The relative ranking of blue collar workers from country to country can be very different.

It is fairly straightforward to present data such as that shown in the chart and to analyze the movements which have taken place over a period of years. To understand the trends involved and to try to glean an idea as to what is likely to happen in the future is considerably more complex, because there are a number of

interrelated variables at work:

- There are the variations in the exchange rate involved in converting local currencies into dollar salary equivalents. These changes are partially influenced by inflation.
- There are the increases in local currency salaries paid from one year to the next. These increases are also partially related to the local inflation rate.
- Inflation in its turn is also affected by the two other variables.

Inflation and the Exchange Rate

As bad as we consider inflation to be in the United States, the inflation rate of 52 percent in the last five years is only half of that in Italy (108 percent) or a third of that in Mexico (154 percent). In all three countries local salaries moved parallel with inflation, not quite keeping pace in the United States and Italy, and running slightly ahead in Mexico. However, the Mexican peso and Italian lira dropped 45 percent and 25 percent, respectively, in the foreign exchange market against the dollar, and in U.S. dollar equivalent terms their rankings have slipped.

As was mentioned earlier, Brazilian executives slipped to sixth position in 1980 because the cruzeiro lost 85 percent of its value in dollar terms (although their cruzeiro salaries increased more than 500 percent in the five-year period).

In the opposite direction, appreciation of the Swiss franc against the dollar explains the widening gap between Swiss and American executives. In 1975 the Swiss salary ranked third and was 35 percent higher than the American. In 1980 the Swiss executives were in the number one position, and their gross pay was 82 percent higher than that of their American counterparts. During that period Swiss franc salaries had moved only 32 percent compared with the 51 percent increase in the United States, but the dollar equivalent salaries soared 104 percent because of the 55 percent appreciation of the franc against the dollar.

The Netherlands and Germany also had lower inflation rates than the United States (about two-thirds and one-half, respectively). Dutch and German executives also had considerably lower local currency salary increases than Americans. However, as their inflation rates were lower than the rates of salary increase, they had real increases in purchasing power: marginally in Holland, but significantly in Germany.

In fact, it is practically a truism that only in those countries where the annual salary increases are below 10 percent is there likely to be any increase in real terms – that is, in purchasing power. As one moves into double digit salary increases, inflation typically rises even faster, and there is a loss of purchasing power.

As inflation also pushes people into higher tax brackets, in most countries governments inevitably are the only gainers. In periods of high inflation governments have more to spend, not less, and while politicians in all countries make speeches about inflation, they seem quite content to let the government sector have an ever bigger share of total income. This can be seen clearly in Table 2.

In the United States (see the Fall 1980 issue) we have seen how the direct effect

Table 1: International Ranking of Executive Salaries, 1980

(Table includes changes in ranking from 1979 and 1975. Bold numbers are rank order.)

Middle Management 600 Job Units	Base Salary in U.S. $(000)						% Change in U.S. $	% Change in Local Currency	% Increase in Inflation	% Change Local Currency vs. U.S. $
	1980		1979		1975		1975-1980	1975-1980	1975-1980	1975-1980
Switzerland	**(1)**	$107.4	**(1)**	$103.5	**(3)**	$52.6	104%	32%	13%	+55%
Belgium	**(2)**	105.1	**(2)**	89.0	**(2)**	54.1	94	54	34	+26
Germany	**(3)**	94.4	**(3)**	81.6	**(5)**	51.4	84	40	23	+32
France	**(4)**	86.5	**(6)**	74.0	**(4)**	52.0	66	68	62	− 0.6
Netherlands	**(5)**	81.8	**(5)**	75.7	**(7)**	47.6	72	35	33	+93
Brazil	**(6)**	69.6	**(4)**	77.6	**(1)**	57.3	21	471	613	−85
Venezuela	**(7)**	68.0	**(7)**	63.4	**(6)**	47.9	42	42	69	− 0.3
Spain	**(8)**	59.8	**(8)**	53.9	**(13)**	33.4	79	125	123	−21
United States	**(9)**	58.9	**(9)**	52.9	**(9)**	39.1	51	51	52	—
Mexico	**(10)**	58.4	**(11)**	45.1	**(8)**	40.8	43	161	154	−45
Italy	**(11)**	56.6	**(10)**	47.5	**(10)**	37.8	50	99	108	−25
Australia	**(12)**	51.6	**(12)**	44.7	**(12)**	34.5	50	72	64	−13
Canada	**(13)**	48.2	**(13)**	42.9	**(11)**	35.7	35	51	50	−10
United Kingdom	**(14)**	48.2	**(14)**	36.6	**(15)**	24.7	95	82	99	+ 7
New Zealand	**(15)**	33.5	**(15)**	29.8	**(14)**	25.0	34	75	96	−24

Table 2: After-Tax Income

(All figures in thousands of U.S. dollars. Bold numbers are rank order.)

Middle Management 600 Job Units	1980		% of Gross		1975		% of Gross	
Switzerland	**(1)**	$70.5	**(7)**	66%	**(4)**	$36.1	**(8)**	69%
France	**(2)**	65.0	**(2)**	75	**(1)**	42.0	**(3)**	81
Germany	**(3)**	59.1	**(9)**	63	**(5)**	33.1	**(12)**	64
Venezuela	**(4)**	59.0	**(1)**	87	**(2)**	41.8	**(1)**	87
Belgium	**(5)**	50.8	**(15)**	48	**(6)**	31.1	**(14)**	57
United States	**(6)**	44.4	**(2)**	75	**(7)**	30.9	**(4)**	79
Spain	**(7)**	44.0	**(4)**	74	**(9)**	27.2	**(2)**	82
Netherlands	**(8)**	41.9	**(14)**	51	**(12)**	24.0	**(15)**	50
Italy	**(9)**	40.6	**(5)**	72	**(11)**	25.0	**(11)**	66
Mexico	**(10)**	33.6	**(12)**	58	**(8)**	29.8	**(5)**	73
United Kingdom	**(11)**	33.4	**(6)**	69	**(14)**	16.5	**(10)**	67
Australia	**(12)**	31.5	**(10)**	61	**(13)**	23.6	**(8)**	69
Brazil	**(13)**	31.2	**(11)**	62	**(3)**	41.5	**(6)**	72
Canada	**(14)**	30.9	**(8)**	64	**(10)**	25.4	**(7)**	71
New Zealand	**(15)**	18.8	**(13)**	56	**(15)**	15.6	**(13)**	62

of inflation, plus the indirect effect (by which inflationary increases in earnings push people onto tax bracket escalators), have resulted in an overall loss of purchasing power for executives in given jobs over the past two decades.

Table 2 shows how in 1975 a U.S. manager in a job of 600 units earned $30,900, kept 79 percent, and paid 21 percent in taxes. Today the job would pay $44,400, and the manager now gets to keep only 75 percent of it.

Taxes Generally Higher Abroad

Politicians in other countries are no less ready to collect taxes. In fact, in 1975 they were generally way ahead of their U.S. counterparts. Table 2 shows that there were only three nations in which the tax rate for middle-management executives was lower than in the United States in 1975. Eleven nations taxed middle management executives even more heavily than did the United States, with the Benelux countries allowing them to keep only 50 to 57 percent.

Table 2 also shows the percentage of gross earnings which executives in each country are now allowed to keep for their own needs. As in the United States, most governments seem to believe that they have more pressing needs than their productive earners, and have allowed their marginal rate of taxation to drift upwards with rising inflation. The 3 to 4 percent extra which the taxmen in the United States and Switzerland now get, relative to what they got in 1975, shows some restraint relative to the 6 to 8 percent extra in New Zealand, Spain, France, Canada, and Australia, the 9 to 10 percent extra in Belgium and Brazil, and the whopping 15 percent extra in Mexico.

In two nations the tax rate held about level, and in two it dropped: in the United Kingdom the middle-management executive pays 2 percent less, while in Italy he gets to keep an extra 6 percent.

The ranking of net after-tax earnings is quite different from that for gross pay. Comparing Table 2 to Table 1, we find some countries moving up a few places in ranking – the French manager to second place, the Venezuelan to fourth, American managers to sixth, and the British to eleventh. Dropping significantly, Belgian managers move back to fifth place, the Dutch to eighth, and the Brazilians to thirteenth.

Although the American executive is now paying 25 percent of his income in taxes, this puts him on a par in second place with the French managers, and behind only the Venezuelan managers. Mid-level managers in other countries are paying considerably higher taxes. In fact, in the Benelux countries they are paying twice as much.

Companies operating in only one country have the concern that their managers be paid at appropriate competitive levels relative to all other managers (including multinational managers) in similar positions in that country.

They would look periodically at data basically similar to that shown in Table 1 to make fundamental decisions on levels of base salary, and in Table 2 to see the need for packaging cash and non-cash compensation in such a way that it attracts a minimum of taxes.

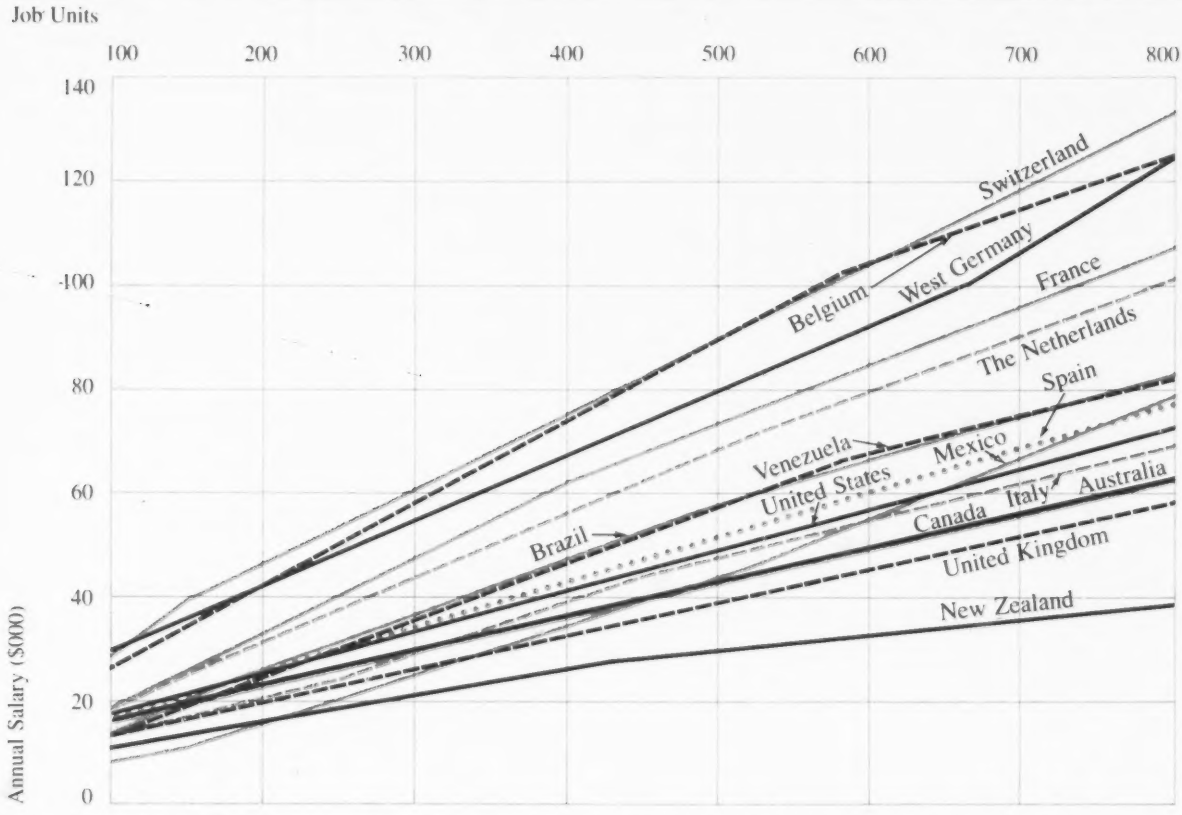
Some Pitfalls

As long as the executive remains in his own country, these are the basic concerns of any company (whether national or multinational). The moment the company wants to move the executive to another country, however, it has a very different concern from a total remuneration point of view, because an executive will want to maintain his or her standard of living. The data in Table 2 rank the dollar-equivalent take-home pay that executives in similar jobs get in a particular country. These numbers do not tell the purchasing power of that pay – that is, how much can be bought with that particular amount of money.

Argentine Inflation

For example, in Argentina in the last four years (1976-1979) the inflation rate has been 390 percent, 170 percent, 150 percent, and 140 percent, respectively. The government, however, has contained the devaluation of the peso against the U.S. dollar to 119, 109, 70, and 61 percent – that is, less than half the inflation rate. As the Argentine practice has been to try to make salary increases match as closely as possible the inflation rate, the

1980 Base Salary in U.S. Dollars *Data as of July, 1980.*



result is that Argentine executives now have gigantic peso salaries which do not buy them any more (in fact less) than they did four years ago.

However, given the exchange rate, if one converts Argentine salaries into dollars, they are out of sight compared with the countries we have been dealing with in this study. A 600 job unit executive in Argentina earns in dollar terms $150,000 – that is, 2.5 times the salary of his U.S. counterpart, and nearly 50 percent more than the highest paid managers in Table 1. This illustration serves to underline the caveats we have been making as to the caution required in making these kinds of comparisons and drawing conclusions from them.

For a multinational organization to make decisions in this area, it needs a considerable amount of reliable and current information as to local pay practices and trends, inflation rates, exchange rates, and the relative cost of living and housing between countries. It must also have a systematic program for applying such data to the case of a particular manager. However, it cannot escape managerial judgment, as there will always be individual countries and executives that do not fit any system.

Relatively speaking, the U.S. executive, despite his increased taxation and loss of purchasing power, is somewhat better off when compared to his counterparts in other countries than he was five years ago. In absolute terms, increased inflation and taxation hit home in most countries. There is a slight reverse trend in personal income taxation showing up in the United Kingdom and Italy. In Washington, so far, there has been a lot of election-year talk. It is possible with the new administration that something will happen quickly.

Meanwhile, we could prescribe an ideal situation for those who can manage it, limiting themselves to the alternatives available within the industrialized world: Earn one's salary in Belgium or Switzerland, say $106,000; then arrange to have one's tax home in France – and with five children – paying only 14 percent of it in taxes; and arrange to spend the after-tax money in a middle-sized city in the United States, where it is likely to stretch further than anywhere else. ■

The Wharton Magazine Economic Newsletter

Econometric Forecast

For the United States, 1980.4 — 1983.3

Prepared by
Lawrence R. Klein, R. Jeffery Green, Allen Gutheim, Edward A. Friedman,
Edward Hill, Wayne Tarken, James Baer, and Ellis Tallman
Wharton Econometric Forecasting Associates

Outlook Bleak; Rates Clobber Housing, Cars

Our outlook for the economy is more pessimistic than in previous forecasts. The reason for the downward revision of the forecast is the very steep rise in interest rates.

One reason for the increase in interest rates is the fairly strong demand for short-term credit in recent months. With the economy recovering this fall, loan demand has grown rapidly. The other reason for the increase in interest rates has been the restrictive policy of the Federal Reserve, which has been focused on restricting the rate of growth of the monetary aggregates.

Thus, with demand for credit increasing much more rapidly than the supply of credit, rates have been pushed up. Until either the economy weakens and thus reduces credit demands or the Federal Reserve moves toward a more accommodating monetary policy, rates will remain high. We believe the resolution of these forces will come through a substantially weaker economy, because we also believe the Federal Reserve will continue to pursue a policy of monetary restraint.

Fiscal policy will be restrictive in the very near term, but we expect a tax cut to be enacted later in 1981. Social Security taxes will increase significantly in January, thereby reducing consumers' disposable income and aggregate demand. We believe that soon after inauguration President Reagan will send to Congress a bill to reduce taxes for business through accelerated depreciation (equivalent to the Senate Finance Committee proposal) and to reduce taxes to individuals by cutting all marginal rates by 10% (the first year of the Kemp-Roth proposal). We expect Congress to pass this measure later in the spring, so that it becomes effective on May 15, 1981. We are also assuming the reduction will be retroactive to January 1, 1981.

The initial cost of the tax reduction is estimated to be $45 billion. This will provide stimulus to the economy in the second half of 1981 and in 1982, but it will also produce a fiscal year 1982 budget deficit of $86.5 billion. With such a large deficit we do not believe that the Reagan administration will propose additional tax cuts for 1982 and 1983.

We project real gross national product to grow at an annual rate of less than 1% in the fourth quarter of 1980 and in each of the first two quarters of 1981. Obviously, with real growth that weak for that long a period, the probability of a quarter of negative growth, and hence a "double dip" in the economy, is significant.

Growth in real GNP is forecast to speed up in the second half of 1981 and into 1982 for several reasons. First, the very weak economy through the first half of 1981 should produce some decline in interest rates. Second, the tax cut, which we assume will become effective May 15, 1981, will add stimulus to the economy later in 1981 and in 1982. Finally, we expect the economies of our major trading partners to perform poorly in 1981 but to begin to grow more rapidly by 1982, thus raising U.S. exports.

The sectors of the economy that are likely to suffer the most during the next few quarters are those most sensitive to the rise in interest rates: in particular, automobiles and housing. These are also the sectors with the poorest performance over the last year. In fact, we expect unit sales of automobiles for all of 1981 to be slightly below the depressed level of 1980. Housing starts are expected to decline to about 1.3 million at an annual rate through the middle of 1981 in response to high interest rates. Starts are then forecast to improve in the second half of 1981 and on into 1982.

Constant dollar nonresidential investment is also expected to decline through mid-1981 in response to high interest rates, low profits, and low operating rates. Thereafter, nonresidential investment is forecast to rebound strongly as the effects of the business tax cuts are felt.

Because of the lack of economic growth, the unemployment rate is forecast to rise to a peak of 8.1% in the third quarter of 1981 before beginning to decline. The rise in unemployment would be even greater if we did not forecast slower growth in the labor force during the next few years. However, the labor force should grow more slowly, even with an increase in the participation rate, be-

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cause growth in the population aged sixteen and over will slow considerably during the next several years.

Inflation is forecast to remain at high levels, with only slight improvement later in the forecast period. Inflation in 1981 is expected to be higher than in 1980 for a number of reasons. First, higher interest rates increase consumer prices and raise business costs. Second, food prices are expected to rise rapidly during 1981 in response to the shortfall in some 1980 crops because of drought. Finally, unit labor costs are expected to accelerate as past inflation rates feed into current wage settlements. Hence, the underlying rate of inflation is forecast to be near 9% throughout the forecast period.

Consumption

The conservative mood of consumers will be exhibited in a slow recovery for durable goods. We expect negligible to negative growth in real durable expenditures until the third quarter of 1981. Strong and consistent growth will not be reached until 1982. Real durable expenditures will show negative growth rates of 8.4% in 1980 and 2.4% in 1981. Strong positive growth of 5% in real durable expenditures will be exhibited in 1982.

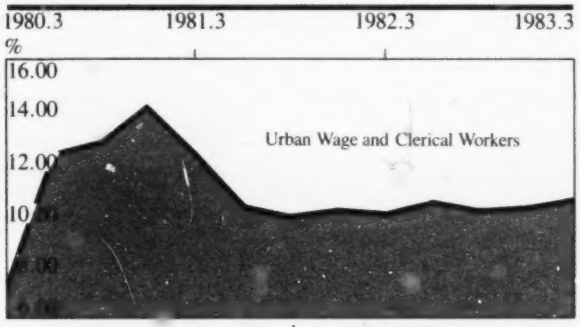
A decline in unit automobile sales is forecast for the first quarter of 1981. Sluggish growth will occur during the remainder of 1981, because of the slow growth in real disposable income and the expense of auto loans in view of continued high interest rates. Overall, we expect 1980 and 1981 to exhibit declines of 1.6% and 1.2% respectively in total unit sales. In contrast, we foresee a substantial increase in 1982 of 10.3% to a level of 9.8 million units per year. The industry will not reach pre-recession levels until sometime in 1983.

In furniture and household appliances, we expect declines in real expenditures of 2.0% and 1.9% respectively in 1980 and 1981. Slow improvement of 1.3% will occur in 1982, to a level of $61.6 billion in constant 1972 dollars.

The recovery in expenditures for nondurable goods will be very sluggish. Food and beverage expenditures will drop because of the projected increases in food prices after a poor crop harvest season. Real expenditures on gasoline and oil will begin to stabilize at a level near $23.3 billion for 1981 and 1982. As the relative price of all energy sources increases, real expenditures on coal and fuel oil will decrease. On the positive side, clothing and shoes will retain their consistent growth pattern in real expenditures, with growth rates of 3.9% and 4.5% for 1981 and 1982 respectively.

Services will continue to have positive growth; however, the growth will be dampened because of the recent economic events. The projected growth rates for 1980, 1981, and 1982 are 2.7%, 2.2%, and 3.2%. Real expenditures on electricity and gas will remain below pre-recession levels and will show sluggish growth rates of 1.3% and 1.9% in 1981 and 1982 as consumers conserve energy.

Consumer Price Index (% Change)



Foreign Trade

The international economy is currently entering a period of slower economic growth and, for some countries, a period of recession. Currently the United Kingdom and Canada are in recession, and although the Canadian economy is expected to improve in 1981, the recession in the United Kingdom is forecast to last until well into 1982. Economic growth should be slower in 1981 than in 1980 in France, in Japan, and in Italy. Germany is experiencing a period of slow growth in 1980 that should continue into 1981.

As a result of the slow growth in the world economy, U.S. exports will grow more slowly in 1981 than in 1980. Current dollar exports are expected to increase only 8.3% in 1981, a sharp deceleration from the 21.5% increase for 1980. With the world economy improving in 1982, current dollar exports are forecast to grow 10.3%. Import growth will slow even more than export growth in 1981, so that net exports in current dollars will rise in 1981. Current dollar net exports are then forecast to decline in 1982 because of higher economic growth in the United States and continued high import price inflation flowing from continued increases in world oil prices.

Thus the current account balance is expected to improve slightly during 1981 because of the improved trade accounts. Then in 1982 the current account balance is expected to decline significantly as the trade accounts deteriorate. Exchange rates are expected to reflect these developments in the trade accounts, with the dollar generally appreciating against major currencies in the near term

Forecast: The Next Two Years

Selected Major Economic Indicators — December 3, 1980

Item	1980.4	1981.1	1981.2	1981.3	1981.4	1982.1	1982.2	1982.3
Gross National Product $	2655.90	2726.70	2793.90	2876.90	2970.60	3076.80	3174.90	3277.00
% change	11.18	11.09	10.24	12.42	13.67	15.09	13.57	13.50
Real Gross National Product $ (1972)	1412.60	1414.90	1416.90	1426.00	1438.40	1457.70	1473.00	1488.60
% change	0.25	0.67	0.55	2.58	3.54	5.48	4.25	4.31
Implicit Price Deflator — GNP	188.00	192.70	197.20	201.80	206.50	211.10	215.50	220.10
% change	10.87	10.35	9.63	9.59	9.79	9.11	8.75	8.82
Unemployment Rate %	7.68	7.84	7.97	8.07	8.06	7.96	7.86	7.75

[$ amounts in billions. All $ figures are current dollars except those marked $(1972)]

and then depreciating slightly in 1982. However, both of these movements should be small in comparison to the size of exchange rate fluctuations observed over the past several years.

Financial

We forecast short-term interest rates to peak at roughly the end of December 1980. Because we are predicting that the descent will be more gradual than the ascent, the averages for the fourth quarter of 1980 will be below the averages for the first quarter of 1981. In particular, the prime lending rate is expected to average 16.3% in the fourth quarter and 17.58% between January and March. Thereafter we expect it to drop slowly, not getting down to 12% before the end of 1982. Three-month Treasury bills will exhibit a similar pattern, averaging 14.05% over the next six months before gradually dropping to 10% late in 1982.

Although the upside pattern of interest rates currently being observed bears a resemblance to March and early April of 1980, the downside pattern we are forecasting is not as sharp as that of May and June. The key reason is that we are not predicting any quarterly declines in real economic activity or loan demand. Though real growth in GNP is expected to be a paltry 0.33% in 1981, the implication of no sharp drop is that there will not be any sudden easing of credit markets. The gradual drop in short interest rates, then, will be due not to a fall in borrowing but instead to our forecast gradual easing of inflation and the continuing trend in improved cash management techniques which is lowering the demand for money by business and consumers (and so putting downward pressure on interest rates).

In the very short run, the most recent round of increases in the prime rate and the expected drop during the first quarter of 1981 can be explained by the long-short borrowing choice faced by businesses. In the last few weeks many scheduled bond issues have been canceled because of the high long-term interest commitment. Hence the heavy demand to borrow short from banks until bond rates ease.

Another similarity of the end of the fourth quarter of 1980 to the end of the first quarter of 1980 is the trend in inflation. As measured by the GNP deflator, it has only gone up 100 basis points this quarter, so the recent big jumps in interest rates are increases in real return. The spike in the consumer price index forecast for the second quarter of 1981 will be due to the inclusion of higher monthly payments on mortgages which will occur over the next six months as a result of higher interest costs, similar to the jump late in the spring.

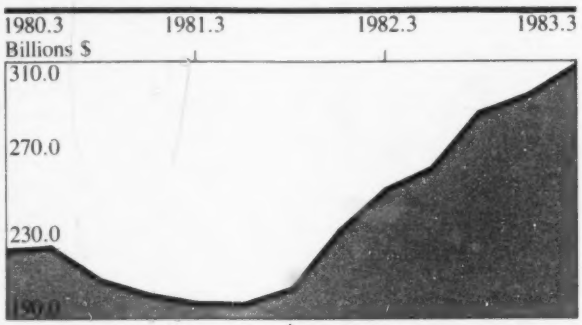
The Federal Reserve should be assigned the major responsibility for the roller coaster movements in interest rates since last March. Chairman Paul Volcker's October 6, 1979, pledge to use monetary policy to stabilize money growth instead of interest rates seemed plausible at the time. But the observed inability to do so, even at the expense of extraordinarily high interest rates, has not yet resulted in an admission of defeat. Once again the Fed is trying hard to limit money growth to meet its 1980 targets, and we believe it will try to do so again in 1981 and 1982 to fight inflation. Hence our M1A forecast is for 2.73% growth in 1981 and 3.73% growth in 1982. M1B is expected to grow at 6.46% and 6.71% respectively for those two years. The reason for the disparity is that most of the growth will occur in NOW accounts, which appear only in M1B, and which will be made legal nationwide on January 1. Since they are means of payment which bear interest, they will be preferable to regular checking accounts.

The problem posed by this Fed policy is that unusual changes in the character of the demand for money since 1974 have made forecasting money growth hard for the Fed. In a nutshell, consumers' and businesses' demands for checking accounts on the one hand have dropped relative to expected trend in that time, and on the other hand have become more unstable. The result is that the Fed has had more than the usual trouble setting quantity targets which would result in stable money growth. The harder it has tried to control M1A and M1B, the more it has forced interest rates to rise.

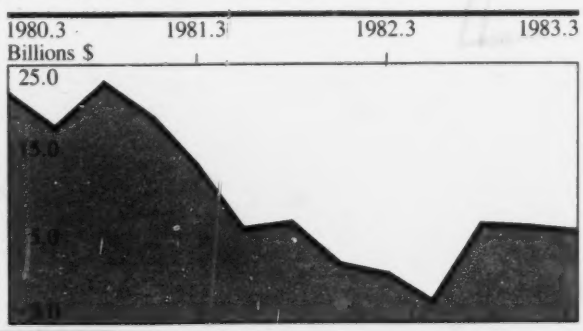
Heavy borrowing to finance the larger deficits in the federal budget after the middle of 1981 will also contribute to a higher path for interest rates.

In the long-term bond markets, we forecast very high rates for the next eighteen months. Moody's total corporate bond average should remain over 14% during that time. This is due mainly to persistent inflation and tight monetary policy, but in addition the volatility in the bond and money markets over the

Corporate Profits Before Tax

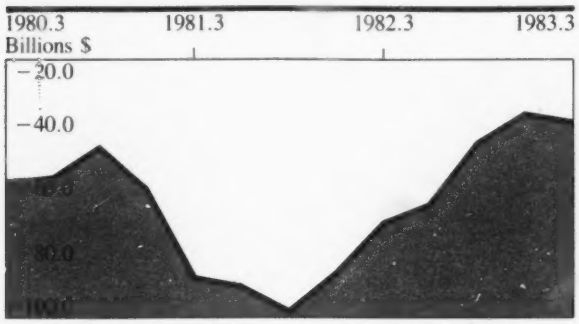


Net Exports of Goods and Services



1979	1980	1981	1982
2368.80	2571.10	2842.00	3227.00
11.34	8.54	10.54	13.55
1431.60	1419.40	1424.00	1479.60
2.32	−0.85	0.33	3.90
165.50	181.20	199.50	218.10
8.85	9.51	10.13	9.28
5.79	7.24	7.98	7.80

Federal Government Deficit



last few years plays a role. Bond volatility in terms of standard deviation of yield has doubled over the last few years while common stock return volatility has dropped. Investors are forecast to demand roughly 100 basis points more for a bond in 1981 than if interest rates in the recent past had been more stable.

Government

Upon reconvening after the election, Congress enacted the second concurrent budget resolution for fiscal year 1981. The resolution calls for expenditures totaling $632.4 billion with a projected deficit of $27.4 billion. These totals are very little changed from those reached in the July midsession review ($633.8 billion in outlays with a deficit of $29.8 billion).

These numbers will doubtless be revised by the new administration and Congress during the coming year. If our current forecast proves to be realistic, most of this revision will come on the revenue side. Currently, we forecast fiscal 1981 expenditures at $637.9 billion. However, our revenue forecast is $574.7 billion, and this results in a deficit of $63.1 billion for the year.

We have assumed that the new Congress will have some success in reducing the level of nondefense spending, transfer payments, and grants to state and local governments. At the same time we expect a substantial increase in defense spending. We project real defense spending for calendar year 1981 to be 10.4% above 1980, which itself should show an increase of about 6.8%. For calendar 1982, the increase is forecast to be 8.0%. These increases do not leave much room to an administration that has promised substantial budget cuts.

Transfer payments are difficult to cut – many of them are linked directly or indirectly to inflation rates, and the programs generally have well-defined constituencies that would fight any reductions. We do anticipate some tightening up of food stamp eligibility requirements and expect as a result that growth of these expenditures will slow in 1981 and 1982.

Nondefense expenditures should also show some potential for cuts. President-elect Reagan has promised a hiring freeze upon his inauguration, and any success with this will show up in nondefense expenditures. We have also assumed that federal nondefense pay raises will average only 5% in October of 1981 and 1982. As a result, our forecast is that nondefense expenditures in real terms will drop 8.2% in calendar 1981 and 4.1% the following year. (Part of the drop in 1981 results from the elimination of the large non-recourse loans made to farmers in the first three quarters of 1980 following the Soviet grain embargo.)

The largest single spending category with good potential for cutting is grants-in-aid to state and local governments. While many of these grants are targeted, many are general purpose and are spent to a fair degree at the whim of the local recipient. Cuts of these expenditures will result in a relatively small political protest.

It is our revenue outlook for 1981 that differs most dramatically from that in the second concurrent resolution. This is due in part to our assumption of a much larger tax cut next year than is contained in the resolution, and in part to our forecast of a bleaker economic outlook.

We have assumed that Congress will pass a $45 billion tax cut in 1981, retroactive to January 1, 1981. Personal taxes are reduced $31 billion by a 10% across the board reduction in rates, and corporate taxes are reduced about $14 billion through a combination of depreciation changes, tax rate reductions, and other minor provisions. Overall, this cut amounts to about $22 billion in fiscal 1981, compared with a cut of $12.5 billion in the second concurrent resolution.

The major difference in revenues between our forecast and the budget resolution lies in the economic outlook. As detailed in the rest of this forecast, our outlook for 1981 has worsened considerably.

Capacity Utilization Rates

By Allen H. Gutheim

U.S. capacity utilization rates reflect the impact of the 1980 economic decline. While additions to capacity have all but ceased during the past two quarters, output levels have fallen in many industries, and utilization of capacity has slipped.

The manufacturing index shows the most dramatic decline, and this is attributable to a fair extent to the automotive industry. Production of new automobiles this year is well behind the 1979 level, and the utilization of productive capacity has fallen, among both the major auto companies and their suppliers.

The mining and utility indices show less of a drop. Mining sector output has tended to remain high regardless of the recession this year. Domestic petroleum production does not fluctuate as demand changes–rather the slack is taken up by imports. Coal production has remained high this year, due in part to inventory accumulation ahead of a possible strike later this winter. The level of utility sector capacity utilization reflects the continued slow economic growth this year.

United States: 3rd Quarter, 1980

Year	Manufacturing	Mining	Utilities	M.M.U.[1]
1980.3	83.5%	79.4%	83.7%	83.2%
1980.2	85.7	80.5	83.9	85.3
1980.1	91.3	80.9	86.7	90.4
1979.4	91.8	80.0	87.1	90.8
1979.3	92.3	78.4	86.6	91.1
1979	92.6	78.9	87.5	91.5
1978	90.9	80.0	87.5	90.0

[1]M.M.U. = Mining, Manufacturing, and Utilities

This is due, in the main, to spiraling interest rates and the current outlook for auto sales and housing starts. We perceive the economic outlook to be flat through the first half of the year, and, with a dip in profits and slow growth in disposable personal income, tax receipts should suffer badly. In late 1982 and in 1983, as income recovers, the projected federal deficit should begin to climb back into the $35-$45 billion range.

Production & Output

In the fourth quarter of 1980, we expect industrial production to increase 13% at an annual rate. Further out, however, we expect the softening in real growth to result in a slowing in the growth of industrial output. Industrial production for 1981 will improve only marginally, and the index is expected to remain below its pre-recession peak until the second quarter of 1982. We expect capacity utilization to fall during the fourth quarter of 1980. No improvement in this indicator is forecast until the second half of 1981, and a return to pre-recession levels remains beyond the bounds of this forecast.

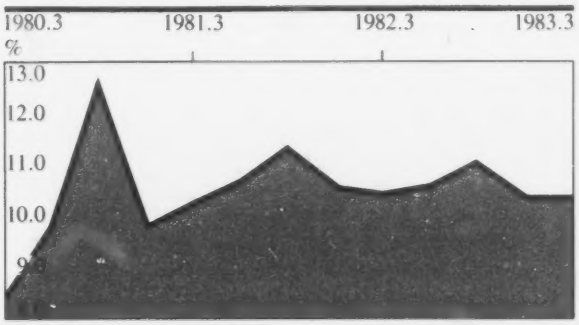
In keeping with the production indicators, recent improvements in output per manhour seem unsustainable. We forecast an increase of only 0.1% for 1981 before a stronger 2% gain in 1982.

Employment, Wages & Prices

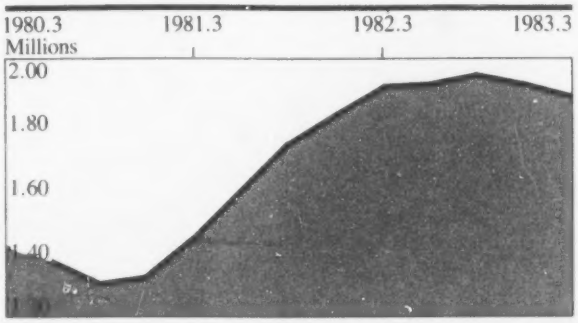
As might be expected with our forecast for real GNP in 1981, employment growth will fall below the increases in the labor force. Thus, unemployment is expected to rise once again after the brief respite during the third quarter of 1980. Unemployment is forecast to peak in the third quarter of 1981 at 8.1% before gradually receding through 1982.

As for the consumer price index, there appears little room for optimism about the future. Last summer's drought will cause future supplies of beef, pork, and poultry to run thin, and we expect the food component of the CPI to average 14% for 1981. Also, real disposable income has fallen over the past year, and with a scheduled increase in social security payments and a boost in the minimum wage, labor costs will surely accelerate. We forecast private compensation per manhour to rise by about 10.5% over both 1981 and 1982. Given these influences, we expect inflation as measured by the GNP deflator to grow by 10.1% in 1981 and 9.2% in 1982, while the CPI will exhibit double-digit inflation through 1982.

Private Compensation Per Manhour (% Change)



Private Housing Starts



Investment

Housing

We believe that private housing starts will show some improvement in March or April. The level of housing starts is heavily dependent on deposit flows to thrift institutions, and we expect to see large increases in the deposit flows in the second quarter of 1981. By the third quarter of 1981 we believe total private starts will have risen beyond the 1.4 million unit level we witnessed in the third quarter of 1980.

Looking ahead to 1982, we expect a moderate yet steady increase in housing activity, with total private starts increasing by approximately 100,000 units per quarter and reaching an annual rate of 1.914 million units by the third quarter of 1982. As mortgage rates drop approximately 100 basis points by late 1982 and deposit flows at thrifts pick up substantially, we expect single-unit starts to average 1.25 million units in 1982.

Nonresidential Investment

The near-term outlook for nonresidential investment is poor. Constant dollar nonresidential investment is forecast to continue to decrease until the fourth quarter of 1981, dropping 1.5% from now until the trough. This is due largely to a weak performance in consumption coupled with the sluggish nature of investment: Business demand to undertake capital expenditure is heavily influenced by recent sales activity. Strong growth in 1982 will bring nonresidential investment up to the level of the previous peak by the end of 1982.

In contrast to some post-recessionary cycles, inventory growth is forecast to be very small over the next few quarters. High interest rates create incentive to hold down inventories. We forecast inventory levels to remain constant in real terms in the first quarter of 1981, and then to grow at an annual rate of less than $2 billion in 1972 dollars over the next several quarters. In 1982, inventories should grow strongly, reflecting two factors. First, final sales in real terms should recover strongly in the second half of 1981. Second, we are assuming a large increase in defense spending, which will add to inventory buildup through the work-in-progress category, driving inventory figures up as progress payments are made. ■

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Economic Issues Facing the New Administration

By Burton G. Malkiel

The United States economy has recently experienced a moderate recession. The unemployment rate at 7.5 percent is well above the levels recorded in 1977 through 1979, and capacity utilization rates are considerably lower. Thus, the short-run stabilization problem is one of coping with a recession. Moreover, the typical current forecast from both government and private economists is that the recovery is likely to be extremely sluggish without any changes in policy.

If I had to pick a letter to describe the outlook for levels of real gross national product without policy changes, an L (with perhaps a bit of an upward slope to the bottom part of the L) would seem much more likely than the V-shaped upswing from the 1974-1975 recession. The outlook is fairly flat for several reasons. First, we started the 1975 recovery with three years of abnormally high (7.5 percent) savings rates. Recently, the savings rate has been lower than normal. While there may be good demographic and tax reasons for savings to remain low, and while I expect there to be an upward revision in measured savings rates, there is not the same likelihood of a dramatic fall in the savings rate as occurred in the last recovery. Moreover, with high inflation rates, especially for food, cutting into real disposable personal income, it is hard to see a consumption recovery anywhere near as strong as in the last recovery.

Second, the V-shaped recovery in 1975 followed an enormous 1974-1975 inventory cycle. We went from large inventory accumulations in 1974 to unprecendented liquidation in the first quarter of 1975. The end of that liquidation later in 1975 and the following swing to accumulation was partly responsible for the V-shape of the recovery. This time around, business has been very cautious. We have had neither overbuilding nor liquidation. Indeed, this is what helped keep the 1980 recession so moderate. But just as we were helped by moderate inventory behavior on the way down, we won't get helped with a big push on the way up.

New Policy Needed

Third, without new policy moves, fiscal policy will move toward restraint. Under current tax laws, the combination of payroll tax increases, bracket creep, and the windfall profits tax on oil companies will raise taxes by more than $40 billion next year. At the trough of the 1974-1975 recession, we had a big tax cut and a dramatic shift toward stimulus. Moreover, the outlook for federal, state, and local spending is not robust.

Fourth, unlike the case in 1974-1975, interest rates have risen markedly. Mortgage rates are currently over 15 percent, whereas they had fallen to under 12 percent earlier this year. One can take a rational expectations view that it will still pay those with high inflation expectations to buy new houses. But there is a significant liquidity effect of an increase in the mortgage rates. A family might have taken out a $60,000 mortgage earlier this year at 11 percent and thus assumed payments of not much more than $550 a month. Today, at a 15 percent rate, that same monthly payment would be more than $750. There is already evidence that the housing market is feeling the effects of rising mortgage rates.

Finally, the world economy has begun to slow down, clouding the outlook for exports. So, the outlook based on current policy is not a vigorous one. Without policy changes, it appears that after a reasonably good fourth quarter the recovery will be rather sluggish, and there is even a chance of a W-shaped pattern if monetary policy continues to tighten.

I'll turn now to four longer-run problems. The first is inflation. The U.S. economy has witnessed a ratcheting up of the core rate of inflation over the past fifteen years. In the mid-1960's, the rate of inflation was not much over 1 percent. Problems started with the overheating of the economy in the late 1960's and the Vietnam war demand-pull inflation, which raised the core rate of inflation to something like 4 or 4.5 percent. (By the core rate, I mean the average increase in unit labor costs, as measured by the difference between compensation per hour and the trend rate of growth of productivity.) Once inflation ratcheted up, it appeared to be impervious to weak demand. As slack opened up early in the 1970's, there was little change in the core inflation rate.

Next, the economy was beset by the oil and food shocks of 1973-1974. Again, the core inflation rate ratcheted up to the 6 to 6.5 percent level – measured rates of inflation were considerably higher. During the severe 1974-1975 recession, there were large decreases in measured rates of inflation, as oil and food prices leveled off, but the core rate of inflation remained near 6 percent. Then in 1978 and 1979, a combination of policy mistakes leading to considerable excess demand in certain sectors and a 125 percent increase in the price of oil ratcheted the inflation rate up again and with it the underlying inflation rate. The 1980 recession again did not reduce the core rate of inflation, and we seem now to be stuck with a rate between 9 and 9.5 percent. The general problem is that over the last fifteen years the core rate of inflation has steadily ratcheted upward. Each shock gets built into the wage-cost structure, and once we get to a higher level of inflation there seems to be no way of getting rid of it, at least with the unsustained doses of deflationary policies we have been willing to accept. Even in the tough 1974-1975 recession, we whittled only a bit off the core inflation rate.

The Productivity Problem

The second long-run problem has to do with productivity. It is, of course, closely related to the inflation problem. Productivity in the United States economy used to increase at about 2.5 to 3 percent a year. This benefited the economy both by allowing significant increases in real standards of living and also by helping to damp down the increase in unit labor costs. At the present time, it appears that the trend rate of growth of productivity is very close to zero. While a full *quantitative* explanation for the poor behavior of productivity is not now available, we do know

how to increase productivity growth. One method is to increase the rate of growth of the capital stock per unit of labor, which has apparently slowed considerably since 1973.

Wasteful Consumption

A third long-run problem involves energy. Despite considerable progress during the past few years, the price of oil and gas in the United States is still too low. We are subsidizing wasteful consumption as well as holding back extra production. We are also far too dependent on less dependable foreign sources of energy. Finally, the incoming administration has stressed a fourth problem, the growth of government and tax burdens. Federal tax receipts rose from 19.5 percent of the gross national product in 1976 to 21 percent of the GNP in 1979. Of course, some of this increase resulted from the recovery itself. But according to the Senate Budget Committee, under current tax law, revenues as a percentage of GNP will rise to 21.8 percent in fiscal 1981 and 24.7 percent of GNP in fiscal 1985. Thus, without major changes in tax policies, it is likely that government share of the GNP will increase considerably over the next few years. This increase in the government share is viewed as impinging on personal freedom and interfering with incentives to work, to save, and to invest. In other words, the tax burden is seen as holding back productive effort.

Let me now turn to a discussion of policies. I think there is general agreement in the United States that because of the ratcheting upward of the core inflation rate and the difficulty of getting the inflation rate down once it has risen, whatever program is adopted will have to be modest. We now have an asymmetry of risks in the United States. The cost of a mistake on the inflationary side is far more serious than a mistake of not being stimulative enough. If we overstimulate the economy and ratchet the inflation rate up further, it will not recede, and we will be stuck with an even higher and perhaps even an accelerating rate of inflation. This asymmetry of risks must lead to asymmetry of policy response.

However, it would appear to me that the $35 billion tax cut proposed by the new administration for 1981 is still cautious. If we do nothing, taxes will increase during 1981 by more than $40 billion. Thus, President-elect Reagan's proposals still imply a tax *increase* next year, not a *decrease*. The proposals simply prevent fiscal policy from turning sharply toward restraint next year at a time when there is considerable slack in the economy and considerable unemployment among prime workers. If we want to increase investment, it will certainly not be helpful to have a fiscal policy that turns much more restrictive over the coming year.

Monetary policy presents a difficult dilemma. Questions have been raised whether current Federal Reserve policies imply a collision between the goals of modest real growth in 1981 and keeping the aggregates within the target ranges. This is especially worrisome for next year in view of the changes in banking regulations enabling NOW accounts to be offered on a nationwide basis. If individuals shift from regular checking accounts into NOW accounts, M-1B would be unaffected. The shift would simply be out of one category of M-1B into another. If, however, individuals are induced to shift money out of regular savings accounts into NOW accounts, M-1B could grow at significantly higher rates than present targets.

I believe an essential part of our long-run battle against inflation involves a policy of keeping the nominal money aggregates in check. But I also recognize that we are in a period of rapid technological change in the banking industry. Rule changes can make an enormous difference in the behavior of the monetary aggregates, and money demand functions have not been stable. Thus, the kinds of assets that serve the function of money have changed and will continue to change significantly in years ahead. We should, I believe, always keep in mind Herb Stein's quip that "Monetarism is the doctrine that there is a very tight and rigid relationship between nominal GNP and money as long as one adopts a very loose and flexible definition of the supply of money."

This presents the Fed with a real dilemma. If the Fed finds it difficult to live within the present narrow target ranges, there are two undesirable possibilities: First, they can stay within the bands and risk a sharp increase in interest rates, which could abort the recovery. Alternatively, they could allow monetary growth to proceed at greater rates than had been contemplated. But then inflationary expectations would likely be amplified, and interest rates could rise in this case as well.

There is no easy answer. While I embrace entirely the need for a restrained and stable monetary policy consistent with reducing inflation, I do worry about the narrowness of the bands that have been set, particularly during a period where the rules of the game will be changed in an important way. I think Paul Volcker was also worried about this phenomenon earlier this year when he was reluctant to offer specific targets. At the very least, I would say that the Federal Reserve and the new administration have an important teaching job in store for them in educating the financial community about both the legitimate and the illegitimate uses of monetarism. Dampening inflationary expectations is a critical part of any effective policy.

Stimulating Investment

Let me turn now to the longer-run need to increase the share of GNP devoted to investment. I think there is now a reasonably general consensus about the need to stimulate investment and the legitimate role of the tax system in helping to provide that stimulus. Inflation has had a pernicious effect in increasing the effective tax rate on income from invested capital. At the corporate level, increasing rates of inflation make original cost depreciation depart increasingly from the economically relevant replacement cost depreciation. Consequently, effective tax rates on true economic income are higher than they should be. Inflation also tends to increase dramatically the effective tax rates on investment income from bonds and equity.

As a consequence, I think it is appropriate and indeed necessary over the next several years that considerable stimulus be given to investment and savings through such means as accelerated amortization, corporate tax rate reduction, and tax incentives for savers. Indeed I hope that, within a context of providing needed relief for individuals, the new administration devotes a somewhat higher

priority to business tax reduction. Having said this, however, I think it is important to point out some drawbacks of the kind of targeting and planning approach to investment stimulus that some have recommended. I worry that once we go down this road, we will be more likely to subsidize inefficient firms such as Chrysler rather than to encourage the winners. While there is a legitimate need for some degree of adjustment assistance for declining areas and industries hurt by free trade, I seriously question the belief that throwing dollars at lame ducks will make them fly again.

Progress on Decontrol

Briefly, let me turn next to the matter of energy. In my judgment, the key to a sensible energy policy is to move toward complete decontrol of oil and gas prices. President Carter did, I believe, make considerable progress toward oil decontrol. The president-elect has suggested he would move to decontrol prices at an even faster rate. It seems to me that we cannot make sensible decisions about synthetic fuels until we have priced oil and gas on a more realistic basis. Indeed, once oil and gas are decontrolled completely, I suspect that the market mechanism itself will lead to a considerable use of coal conversion and a variety of synthetic fuels.

Let me turn next to the long-run issue stressed by President-elect Reagan during the recent presidential campaign: the need for substantial tax cuts in order to curb the growth of government. During the campaign, the Democrats argued that these proposals were inflationary and inconsistent. They suggested that if the new administration is not willing to emasculate the Social Security and other "sacred cow" social programs, you cannot have Kemp-Roth, more defense spending, and a balanced budget.

I would suggest, however, that if there is the political will there are ways in which significant spending cuts would be possible even in the "sacred cow" entitlement programs. Take Social Security, for example. There are many ways to index benefits. In the "decoupling debate" of a few years ago, many reasonable options were offered that could have cut prospective spending considerably. It is even possible that retirement ages might be increased a bit. As we tend to live longer, we might even all be better off working another year or so. Similarly, in other poverty programs, rules changes can make an enormous difference in expenditure levels, while maintaining the integrity of the programs.

It is very difficult to say in advance what kind of tax reductions are really possible. It depends upon what happens to spending and inflation and the response of the economy to the initial round of tax cuts. One thing is clear, however. If you take the view that it would be preferable to keep the government's share of GNP from rising, substantial tax cuts are not only possible but indeed necessary.

Let me finally return to the key problem of inflation. I have already discussed the need for restrained fiscal and monetary policies and stimulative policies to increase business fixed investment so as to try to reverse the very unsatisfactory recent productivity record. Should other policies be considered? Many economists regard some kind of tax-based incomes policy (TIP) as essential for progress.

Tax-based incomes policies simply mean that one would use the tax system to encourage restrained wage and price behavior. They involve tax penalties on firms that allow wage increases to exceed some set of limits, or tax incentives for those who comply. My own view is that the technical problems in instituting TIP would simply be overwhelming. Consider, for example, how difficult it is to estimate what kind of wage increase has been granted in a situation where there is a significant change in the occupational or experience mix of the work force. We have had considerable experience, in other parts of the world, with incomes policies that appeared to work, but which, because of "wage drift," did not in fact restrain the growth of wages. I rather doubt that TIP would have substantial benefits, whereas it does have the potential for creating enormous damage to the tax system and to the economy.

Leave a Margin of Slack

I also wonder whether TIP would be necessary if monetary and fiscal policies were designed to leave some margin of slack in the economy and to make credible to the public that the rate of growth of nominal GNP would be constrained irrespective of the behavior of wages. I cannot help but think that, as painful as such a policy might be, it will prove less painful than accommodating inflation and is perhaps the only policy with a substantial chance of producing significant benefits. Moreover, there is at least some hope that long-run stability in monetary policies can have some effect on influencing expectations of inflation.

In addition to the need for sensible fiscal and monetary policies, I think it is important also to mention that government has often acted in other ways inconsistent with our economic priority of reducing inflation. Specifically, we must avoid imposing agricultural price supports, trade restrictions, and unnecessary environmental regulations that directly contribute to inflation. We must not underestimate how important some of these factors are. Dairy price supports may have cost American consumers a billion dollars annually; sugar price supports another billion. Paraphrasing the late Everett Dirksen, "A billion dollars here, a billion dollars there, sooner or later it adds up to real money." The Brookings Institution, hardly an organ of the Republican Party, has estimated that a series of such "self-inflicted wounds" has probably added one to two points to the inflation rate.

Anyone who says it will be easy to contain inflation is either ignorant or a charlatan. If we are to make progress we have to do everything right, including taking a number of courageous and politically difficult steps.

An economist friend of mine who is an ardent Democrat remarked after the election results came in, "It's just as well we didn't win this time. The current economic problems facing the nation are so severe and intractable that the Republicans may be out for twenty years or more after the election of 1984."

Only time will tell whether we do make progress or whether my friend was right in his pessimistic assessment. There's no doubt that we will have to accept some slack and pain, but with some luck and the right policies, I think the 1980's could turn into a decade of less inflation and more real growth. ■

Burton G. Malkiel is chairman of the department of economics at Princeton University.

Spring 1981

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Henry Geldzahler On The Arts As Business

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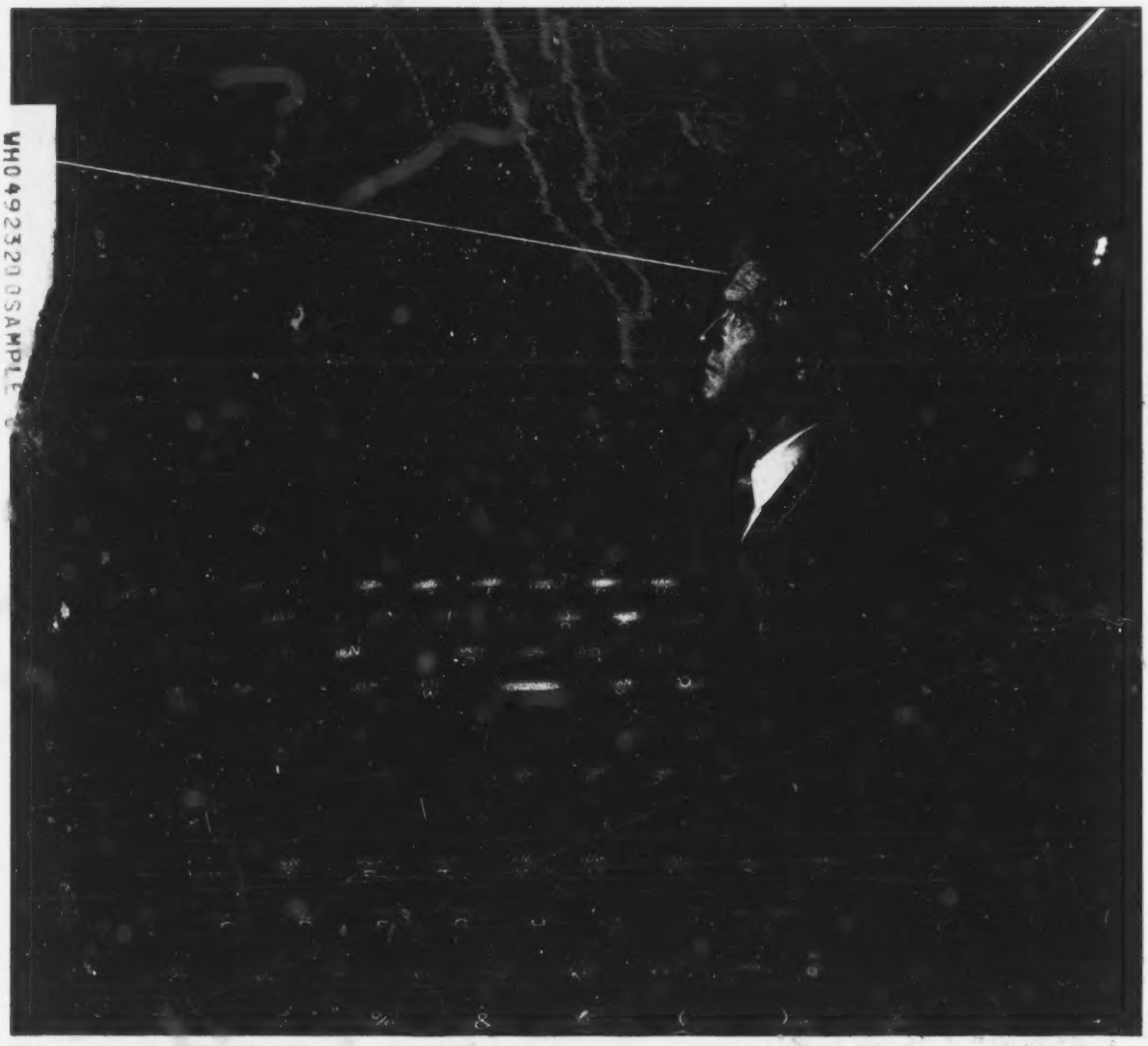

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Wharton 1881 Centennial 1981

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Manuscripts and art should be accompanied by stamped, self-addressed envelope and mailed to: Editor, *The Wharton Magazine*, 3609 Locust Walk, University of Pennsylvania, Philadelphia, PA 19104. (215) 243-8999

Advertising: Jack Aldrich, Director of Advertising Sales, at same address. (215) 243-8999.
Advertising Representative: Rob Sennott, The Leadership Network, Suite 321, 230 Park Avenue, New York, NY 10017, (212) 682-4500. **Publisher's Representative:** *New England:* Joe Delone, Joe Delone and Associates, P.O. Box 271, 22 Welwyn Road, Riverside CT 06878, (203) 637-2758.

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Subscriptions: $14 a year in the United States; $16 in Canada and Mexico; $24 (by air) in Europe and Latin America; $26 (by air) in Asia, Pacific, and Africa.
All subscription correspondence:
The Wharton Magazine, Subscription Department, P. O. Box 581, Martinsville Center, Martinsville, N.J. 08836. Printed by The Winchell Company, Philadelphia, PA. 19107. Prices for reprints and bulk orders on request.
U.S.P.S. #432950. Second-class postage paid at Philadelphia, PA. Application for Audit Bureau of Circulations Membership has been made November 1980.

The Wharton Magazine Economic Newsletter

Econometric Forecast

For the United States, 1981.1—1983.4

Prepared by
Lawrence R. Klein, R. Jeffery Green, Allen Gutheim, Edward A. Friedman,
Edward Hill, Wayne Tarken, James Baer, and Ellis Tallman
Wharton Econometric Forecasting Associates

Slow Growth, High Inflation To Continue

In the time since President Reagan announced his program for economic recovery, administration spokesmen have been aggressively soliciting support, and, while it is still early, it appears that significant support will be forthcoming. The administration also reinforced its image of determination by proposing additional spending cuts when it appeared that earlier projections were underestimated.

There appears to be considerable support for the proposed increases in defense spending, and we have assumed that these increases will take effect. It will be more difficult to enact the proposed cuts in nondefense spending since each program will be defended by specific lobbyists and interest groups. Nonetheless, the administration appears to be ready to push hard for its reductions, and significant groups in Congress appear to be willing to go along with many of the proposed cuts. We are assuming that two-thirds of the reductions will be enacted, which would represent a major shift in federal spending policy.

The business tax cuts will also probably be enacted, although not necessarily in the form proposed by the president. President Reagan supported the Senate Finance Committee proposal for faster depreciation during the campaign last fall, but now prefers the Jones-Conable 10-5-3 program. The programs are similar, and we expect a compromise along the lines approved by the Senate Finance Committee.

The Kemp-Roth proposal for a 30% reduction in personal tax rates over the next three years, which has been endorsed by President Reagan, will probably run into considerable opposition. The problem is that unless the personal tax cuts produce the enormous beneficial effects on growth and inflation predicted by supporters, the budget deficit will remain very large. Further, if the entire tax package is enacted and some of the proposed spending reductions do not occur, the budget will be even more unbalanced. Our view is that Congress will pass the first 10% rate reduction, effective this July, and not pass the later cuts because of remaining large budget deficits.

The Federal Reserve has recently announced its money growth targets for 1981. These indicate that the Fed remains determined to reduce the rate of growth of the monetary aggregates both in 1981 and beyond. Because we expect the economy to continue to grow through 1981, and because we expect inflation to persist, this restrictive policy by the Fed should cause interest rates to move up sharply later this year.

Under these policy assumptions the major features of the outlook for 1981 and 1982 are as follows:

Constant dollar gross national product is forecast to grow by 2.9% from the fourth quarter of 1980 to the fourth quarter of 1981 and 2.3% from the fourth quarter of 1981 to the fourth quarter of 1982.

Inflation, as measured by the GNP implicit deflator, is forecast to average 10.2% in 1981 and 9.5% in 1982.

The unemployment rate is expected to fluctuate in a narrow band and to average 7.5% in 1981 and 7.7% in 1982.

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Interest rates are expected to decline slowly until midsummer and then begin rising. Short-term rates are expected to peak in early 1982 at levels near those reached last winter.

Consumption

Consumption expenditures in the fourth quarter of 1980 exhibited stronger growth than initially expected. Revised data for durable and nondurable expenditures revealed improved performance for both.

Expenditures on durable consumer goods increased 21.4% during the fourth quarter of 1980. We expect real durable expenditures to grow at an annual rate of 11.4% for the first quarter of 1981, mainly as a result of the expected increase in automobile sales. However, the disposable income available to consumers will not support a strong economic performance during the entire first half of 1981, so the rates of growth of all components of real durable expenditures are forecast to be either flat or negative for the second quarter of 1981. The projected tax cut, assumed to take effect July 1, is expected to stimulate some durable expenditures in the third quarter. The longer term outlook, though, is for relatively flat performance for du-

rable expenditures, due to constrained income growth and sustained high rates of interest.

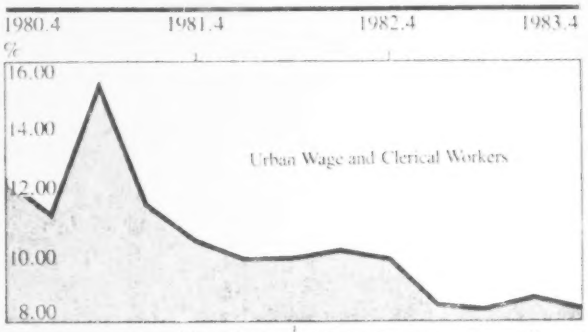
Real nondurable expenditures are forecast to grow sluggishly throughout the forecast period, at rates of 0.8% and 1.3% for 1981 and 1982 respectively. Real expenditures on clothing and shoes are forecast to grow at a 4.1% rate in 1981 and a 4.5% rate in 1982. Food and beverage expenditures are expected to exhibit flat to negative growth rates over this period, as the relative price of this consumption category continues to increase.

Expenditures on fuel oil, coal, gasoline, and oil are expected to continue to decline throughout the forecast period. Higher prices have led to conservation, especially in the areas of fuel oil and coal. We forecast decreases in real expenditures on fuel oil and coal of 10.4% and 9.7% for 1981 and 1982 respectively, and on gasoline and oil of 3.8% in 1981 and 3.2% in 1982.

Government

It seems likely to us that the administration will get a fair part of what it is asking for in its economic proposals. The conservative bent taken by Congress as a result of last fall's election will certainly aid President Reagan, but even more important than the addition of a number of Republican senators is the disarray of the remaining liberal opposition. Surprisingly, Democrats have not come forward with any coherent package of their own. Lacking this, it is likely that Congress will only tinker with the administration package, and that a good deal of it will be enacted as presented.

Consumer Price Index (% Change)



In our view, it is the Kemp-Roth personal tax cut proposals which have the least chance of being passed. We have assumed that Congress will accept only one 10% across the board cut in personal taxes, effective July 1 of this year. Further cuts remain controversial, because of their potential for adding to the budget deficit and to inflationary pressures. Recent opinion polls have indicated that, while many would like a tax cut, few are in favor of a significantly worsened federal deficit. These views, coupled with Congress's proclivity to think ahead only one year at a time, make a three-year tax cutting commitment unlikely. If subsequent cuts seem appropriate as we move into 1982 and 1983, Congress can easily act on them then.

As for business tax changes, we have assumed that the package ultimately passed will be close to that proposed last fall by the Senate Finance Committee. This includes a 2-4-7-10 depreciation plan which seems more likely to be passed than the phased-in 10-5-3 plan proposed by the president. We have *not* included the reduction in corporate tax rates included by the Senate Finance Committee bill. The 2-4-7-10 depreciation tax lives plan represents about a 40% reduction in tax lives. We have assumed that it will be effective January 1, 1981, and it is worth an estimated $10 billion in reduced taxes in this first year. Additional corporate tax provisions that we have assumed are worth about $2 billion in 1981.

Of the entire administration program, President Reagan's request for additional defense outlays seems most likely to be approved. For fiscal year 1982, the president has requested an additional $7.2 billion above the Carter budget, which was itself already $6.9 billion ahead of the current defense budget. For fiscal 1983 Mr. Reagan has requested $20.7 billion in additional funds above the Carter budget levels. There appears to be virtually no opposition to these increases, and it will not be surprising if the final totals show even larger amounts of defense spending.

The outlook for the remainder of the administration package – proposed cuts in 83 nondefense spending programs – is less clear. Only a few months ago, we felt that a combination of liberal lawmakers and a massive lobbying effort would prevent many of the cuts Mr. Reagan has proposed. Now we are less sure. There appears to be well-defined public support for budget cutting, and little appreciation by the average person of how these cuts might affect him or her. Many congressmen seem unwilling to resist the proposed cuts in the face of such public support for the president. Budget cutting momentum appears to be on the upswing, and, again, Democrats seem unable to offer an alternate suggestion of their own.

Clearly the president will not get all that he has requested, but our feeling is that he may get a good proportion. In this forecast, we have generally assumed that he will get approximately two-thirds of his nondefense requests.

These assumptions lead to

Forecast: The Next Two Years

Selected Major Economic Indicators — March 4, 1981

Item	1981.1	1981.2	1981.3	1981.4	1982.1	1982.2	1982.3	1982.4
Gross National Product $	2828.40	2909.40	3004.30	3101.70	3193.20	3271.80	3360.00	3455.70
% change	14.83	11.96	13.69	13.61	12.33	10.22	11.24	11.88
Real Gross National Product $(1972)	1501.50	1506.90	1519.20	1528.90	1538.60	1544.70	1555.40	1564.60
% change	4.11	1.45	3.30	2.57	2.58	1.58	2.80	2.38
Implicit Price Deflator — GNP	188.40	193.10	197.70	202.90	207.50	211.80	216.00	220.90
% change	10.32	10.36	10.05	10.77	9.51	8.50	8.21	9.28
Unemployment Rate %	7.41	7.51	7.53	7.57	7.65	7.67	7.68	7.78

[$ amounts in billions. All $ figures are current dollars except those marked $(1972)]

a federal budget that shows an increasing deficit after mid-1981. We forecast the federal deficit at $48.0 billion in fiscal 1981, $65.3 billion in fiscal 1982, and $63.5 billion in fiscal 1983.

Financial

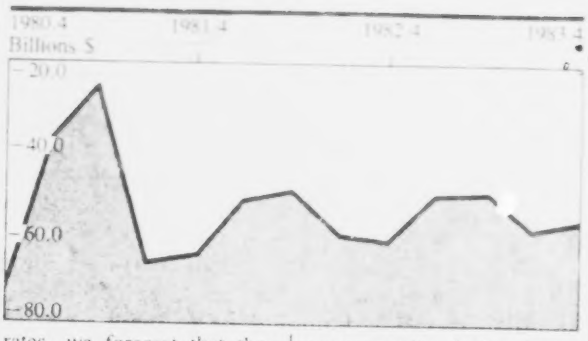
Spectacular changes in the narrowly defined money stock, M1A, have occurred as a result of the nationwide legalization of NOW accounts. The 11% drop at an annual rate that occurred in November and December has accelerated to a 26% annual rate of decline in January and February. M1A now stands at $367 billion, its lowest level since last April. The flight from conventional checking accounts into NOW accounts has exceeded $25 billion. M1B, which includes NOW accounts, has fluctuated without trend since November, in the vicinity of $415 billion. Some of the movement into M1B appears to have come from savings accounts at banks and thrifts.

Savings and loan associations experienced a disastrous year in 1980 as earnings dropped 75%. The cost of generating mortgage funds was in many cases higher than the returns on those funds. The resulting liquidity squeeze has put many thrift institutions into precarious financial positions. This problem seems likely to worsen over the coming months.

As for short-term interest rates, we forecast that they will decline slowly over the next several months, turn around by the end of the spring, rise back to current levels this time next year, and then fall gradually.

1980	1981	1982	1983
2626.50	2960.90	3320.20	3701.60
8.81	12.73	12.13	11.49
1480.90	1514.10	1550.80	1598.50
−0.14	2.24	2.42	3.07
177.40	195.50	214.10	231.50
8.98	10.23	9.48	8.16
7.15	7.51	7.70	7.65

Federal Government Deficit



Investment

Housing

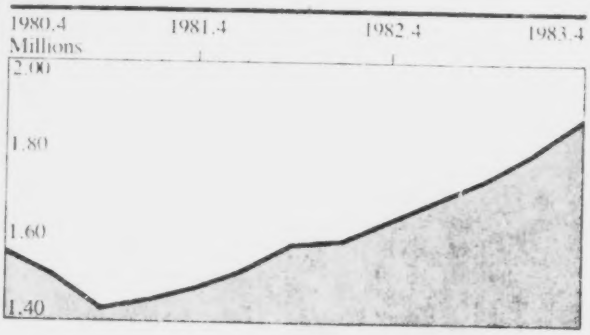
The anticipated housing slowdown in January failed to occur, as evidenced by the 3.4% rise in housing starts for that month. We had previously forecast a moderate recession to occur in this sector, followed by a strong recovery which was to be fueled by moderating interest rates in late 1981 and 1982. However, we now expect that mortgage interest rates will move higher later in 1981 and not exhibit a consistently downward trend until the beginning of 1983. As a result, we are still anticipating a moderate decline in housing starts but with a more gradual recovery, not reaching current levels until the middle of 1982.

It appears that housing starts are becoming less sensitive to the level of interest rates. Part of this change may be due to the increasing pent-up demand for homes. Housing sales activity has been depressed for several months due to high interest rates and a general lack of mortgage activity. At the same time, thrift institutions are more willing to use variable rate mortgages, equity sharing loans, and other new instruments to try to remain in the housing market without impairing their long-term profitability. In addition, the weak markets in many areas have brought evidence of some price cutting by sellers. However, only as mortgage rates begin to moderate will residential investment begin to recover with any real degree of strength, and we do not expect this to happen until the beginning of 1983.

We are forecasting total housing starts to fall to an annual rate of 1,428,000 during the second quarter of 1981. The recovery will be very gradual, with housing starts not reaching the 1,600,000 annual rate level until the fourth quarter of 1982.

Starts of single-family units should fall during the first quarter of 1981 to an annual rate of 931,000 before recovering and reaching an annual rate of 1,019,000 in the first quarter of 1983. Multiple housing starts with five or more units will rise to an annual rate of 450,000 during the first quarter, then fall to an annual rate of 352,000 during the second quarter before fully recovering in the middle of 1982. Starts for structures containing two to four units show the smallest decline, falling in the first quarter by a rate of only 2,000 before beginning a somewhat more rapid recovery than any other category of housing starts.

Private Housing Starts

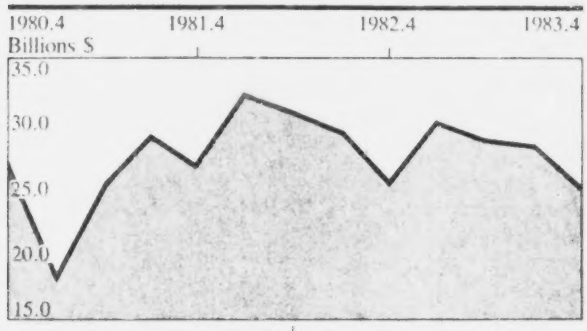


Nonresidential Investment

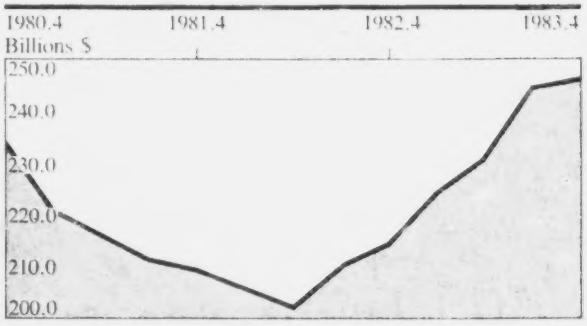
Nonresidential business investment in real terms will be sluggish throughout most of 1981 in accordance with the general mood of the economy. High interest rates will have a particularly strong impact on investment in structures, which is forecast to decline 3.7% during 1981. Equipment investment, although expected to be weak in 1981, shows strong growth throughout the remainder of the forecast period, in contrast to investment in structures, which is expected to remain fairly weak. The stronger growth in investment towards the end of the forecast period is at least partially the result of the business tax cuts that we are assuming will pass Congress.

Investment in agriculture is still being retarded by last

Net Exports of Goods and Services



Corporate Profits Before Tax



year's drought. Agricultural investment is forecast to pick up in the third quarter of this year as the proceeds from the new crop year replenish the coffers. Increasing energy costs will bolster the mining sector throughout the forecast period as the return for exploration and production increases. The opposite effect will be felt by utilities, whose investments are expected to decline through 1983 as a result of increases in energy-related costs.

Investment in the transportation sector displays a cyclical pattern. In the short run, transportation investment is forecast to plunge, largely as a result of the high rate of investment in transportation in the last few years – quite a bit of the necessary equipment turnover has already taken place. The depressed condition of the airline industry also adds to this disinvestment.

Inventory growth is forecast to be slow during 1981, largely as a result of the high inventory-holding costs associated with high interest rates. Much of the increase in business inventories in this forecast is due to the works in progress category, which will grow with the increase in defense-related production. Investment in automobile inventories is forecast to remain relatively flat through the second quarter of 1982 and then to increase as auto sales pick up. The inventory sales ratio is expected to drop through 1981 as inventories decrease and sales pick up, and to remain fairly constant in 1982 and 1983 as sales and inventories increase in parallel.

Foreign Trade

The latest trade statistics indicate that the merchandise trade balance for the United States is beginning to weaken. This is a logical result of continued growth of the U.S. economy and the progressively poorer economic conditions overseas.

On the import side, U.S. economic growth is currently causing imports to rise sharply. Much of the increase has come in the form of higher energy imports, but imports of manufactured goods are also rising rapidly. Export growth, on the other hand, is slowing.

For 1981, constant dollar net exports are forecast to decline, with imports growing 3.1% and exports showing zero growth. Strong increases in net factor income are expected to keep the current account balance in surplus for 1981.

Inflation remains the most perplexing economic problem facing nearly all countries. In a few places it has clearly gotten out of control, but in most countries it is causing public policymakers to introduce restrictive monetary and fiscal policies to try to break inflationary expectations and to hold down wage gains through rising unemployment. We see the clearest expression of this kind of policy reaction in projections for the United Kingdom, where a negative movement in gross domestic product is being estimated for the second year running, with widespread unemployment and some influence on wages and prices.

One of the sources of world inflation in the oil importing world (both industrial and developing) has been the high and rising price of crude oil. For 1981 we are projecting an increase far below the two rises in excess of 50% per annum in 1979 and 1980. In 1981, we expect to see a transitional step down to about 12%.

Food prices, following last year's drought in the United States and a disappointing harvest in the Soviet Union, have taken a turn upwards, and the inflation forecast must recognize this, too.

Overall, 1981 appears to be a slow recovery year. The United States began recovering as early as July or August 1980. This gives it locomotive status, together with Japan, in pulling the world economy as a whole. Western European countries and Great

Capacity Utilization Rates

Weakness in the U.S. economy remains concentrated in the manufacturing sector. In particular, production levels of domestic automobiles remained relatively low during the last three months of 1980. As a result, the level of manufacturing capacity utilization remains well below the peak year of 1979.

Mining sector capacity utilization suffered only slightly during 1980, as a massive increase in petroleum drilling pushed operations in this part of the sector to capacity.

Capacity utilization in the utility sector dipped only slightly in 1980. Since 1977,

United States: 4th Quarter, 1980

Year	Manufacturing	Mining	Utilities	M.M.U.[1]
1980.4	84.0%	77.2%	88.3%	83.8%
1980.3	83.6	77.1	87.8	83.4
1980.2	85.7	79.1	86.2	85.3
1980.1	91.3	81.0	86.7	90.4
1979.4	91.8	79.9	87.1	90.7
1980	86.2	78.6	87.3	85.7
1979	92.6	79.0	87.5	91.5

[1]M.M.U. = Mining, Manufacturing, and Utilities

Britain are broadly in recession or just bordering that state of economic affairs. The mixed picture, with good growth in the United States and Japan, moderately good growth in Australia, and relatively poor growth elsewhere, leads to an average world expansion of 2.4% in 1981 and almost 4.0% in 1982.

It thus appears that 1981 is a transitional period, with most countries turning toward recovery in the second half. On a consistent basis, 1982 appears to be a year of much better performance.

The growth of world trade is projected at only 3.0% in 1981 and 3.7% in 1982. These are both low, but recovering. For the third world countries, depending on exports, this is a dismal prospect. African growth looks very poor, at less than 3% this year. This figure is balanced by fairly high growth in the Far East and Middle East, with average growth in Latin America.

The centrally planned economies are also uncommonly slow, as far as growth is concerned. The figure for the Soviet Union is a mere 3.1%. This is a fair estimate of an average for the whole Eastern European bloc, some above and some below. Poland certainly holds down the average, with negative values for growth.

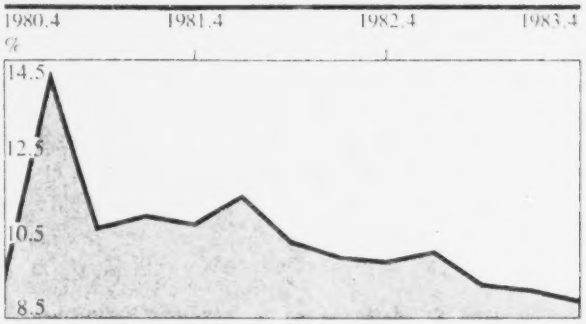
Production & Output

Industrial production, which increased at an annual rate of 21% in the fourth quarter of 1980, is expected to slow to a 10% growth rate during the first quarter of 1981. Thereafter, as the economy continues its lackluster expansion, the index is expected to increase at a more gradual rate.

Capacity utilization, which continued to fall throughout 1980, is forecast to turn around, but we expect only sluggish growth through 1983, with the utilization rate remaining under its 1980 average of 85% through 1982.

Output per manhour is expected to fall again in the first quarter of 1981, largely because of an increase in manhours. We see no more declines in this ratio throughout the expansion; however, growth will be marginal.

Private Compensation Per Manhour (% Change)



Employment, Wages & Prices

We predict unemployment to continue to grow through 1982, reaching a peak of 7.8% in the fourth quarter of that year. Accordingly, growth in civilian employment will lag growth in the labor force by almost 2 million over the next two years.

The good news about inflation appears to be over. The recent weakness in farm prices reflects to a large degree early slaughtering of stock in order to avoid borrowing at current rates of interest. The escalation of energy costs resulting from the latest OPEC increases will be aggravated by oil decontrol. Housing costs, although the sale price of new homes is softening, will accelerate because mortgage rates are expected to rise and because there remains a strong underlying demand for new homes.

In addition, wage earners are not likely to reduce their demands in upcoming contracts, because they will be reacting to two straight years of declining real personal income. We forecast private compensation per manhour to increase at about an 11% annual rate over the next two years.

Thus, we see inflation as measured by the implicit GNP deflator rising to a peak of 10.8% at an annual rate in the fourth quarter of this year, averaging 10.2% for 1981 and 9.5% for 1982. Concurrently, the consumer price index will fall gradually over the next two years, averaging 11.9% for 1981 and 10.6% for 1982.

Detailed forecasts of the U.S. and world economies are available on a fee basis from Wharton EFA. Enquiries should be directed to: Business Manager, Wharton EFA, 3624 Market Street, Philadelphia, PA 19104.

By Allen H. Gutheim

the growth rate of utility sector investment has declined, and it was actually negative in 1980. The capital stock base has grown, as a result, more slowly, and this has helped cushion this year's drop in capacity utilization.

International capacity utilization rates are just now becoming available for the first half of 1980. The extent of the present world slowdown can be seen in those rates which are currently available. The recession in the United Kingdom drove that nation's index to 79.8% in the second quarter.

Most other nations show drops in the second quarter. Of note is Japan, which shows a second quarter drop following first quarter strength, and West Germany, which showed a peak in late 1979 before slipping almost two percentage points in the second quarter of 1980. In virtually all economies, 1980 was a difficult year.

Foreign: 2nd Quarter, 1980

Year	Belgium	France	Germany	Italy	Holland	U.K.	(Average)*	Canada	Japan
1980.2	—%	—%	85.5%	92.9%	—%	79.8%	—%	—%	83.2%
1980.1	—	79.9	87.3	96.6	74.6	82.6	—	—	84.1
1979.4	84.9	81.0	87.3	93.9	76.6	85.6	84.9	89.5	81.8
1979.3	86.8	82.2	87.2	86.7	77.5	85.3	84.3	90.3	80.2
1979	85.6	80.9	86.8	89.1	76.8	86.9	84.4	90.1	80.2
1978	83.8	80.2	85.0	86.3	76.4	87.7	83.2	89.2	77.9
1977	84.6	81.9	86.3	87.3	79.7	87.7	84.6	88.7	77.5

*The average of the first six countries on this table.

Economic Prospects For the People's Republic of China

By Pu Shan

More than thirty years ago, a great Chinese teacher once said: "We must attend to the quantitative aspect of a situation or problem and make a basic quantitative analysis. Every quality manifests itself in a certain quantity, and without quantity there can be no quality." One might think that was someone making a speech to the econometric society, or perhaps a luncheon address to a group of distinguished econometricians. But that was not the case. The speaker was Mao Zedong, and he was addressing the Central Committee of the Chinese Communist Party. In fact, he went on to say: "To this day many of our comrades still do not understand that they must attend to the quantitative aspect of things – the basic statistics, the main percentages, and the quantitative limits that determine the qualities of things. They have no 'figures' in their heads and as a result cannot help making mistakes."

Unfortunately, this very important teaching of Mao was not always well-heeded, perhaps not even by himself, and to this day there is still a lack of competent econometricians in China. Otherwise, many of the serious mistakes in Chinese economic development might have been avoided, or at least alleviated, and the achievements could have been much greater.

Since the founding of the People's Republic of China, it has made great accomplishments in economic development. In a little more than thirty years, it has transformed a backward semi-colonial and semi-feudal society into an independent socialist economy with a fairly comprehensive industrial system. It has in the main eliminated the abject poverty of the masses and the extreme inequality in the distribution of income, and greatly improved the health, education, and moral standards of the population. With an arable land area that is 7 percent of the world total, it has managed to provide the basic needs of a population which is now almost one-fourth of the world. Average life expectancy has risen by more than thirty years, from less than forty before the liberation to close to seventy. It has also evolved a development strategy of its own, distinct both from other socialist countries and from other underdeveloped countries.

On the other hand, China's economic development was certainly not without mistakes and setbacks, and its development strategy was often subject to changes of emphasis accompanied by violent and acrimonious charges and countercharges. Especially during the period of the "Great Leap Forward" in the late 1950's and the period of the "Cultural Revolution" from 1966 to 1976, sudden distortions and changes in the strategy led to economic disaster and political turmoil. After the Cultural Revolution, extensive studies and debates on the development strategy were carried out in the light of the past experiences. A consensus of opinion gradually emerged, and a program of readjustment and reform was initiated in 1979. The problems around which the readjustment and reform are centered may be summarized as: 1) the relations of production, 2) the relations between accumulation and consumption, 3) the structure of economic management.

The socialist transformation of the relations of production is a long process in which the public ownership of means of production will have to go through various stages. The experience of China shows that changes in the relations of production must correspond to the development of the productive forces and to the ideological level of the masses.

From 1949 to 1957, when the transformation of private enterprises to public enterprises and the collectivization of farms and handicrafts were mainly accomplished, they were carried out gradually and step by step, thus avoiding the disruption of production that was the case in the Soviet Union. In fact, both industrial and agricultural production increased quite rapidly during that period.

Some Disadvantages

On the other hand, during the "Great Leap Forward," when farm cooperatives were combined into People's Communes, each commune comprising thousands of households was made a single accounting unit. As a result, the income of the more prosperous cooperatives was seriously reduced and their enthusiasm for increasing production was impaired, and that was one of the reasons why agricultural production dropped successively during the period from 1959 to 1961. It was only after the level of collective ownership was lowered, first with the brigade and then the production team as the basic unit of accounting, that agricultural production recovered and increased again. Yet, during the Cultural Revolution, there were again attempts to make brigade the basic unit of accounting, to eliminate the private plot and the country fair, to discriminate against collective enterprises in favor of state enterprises, and to prohibit almost entirely self-employment in handicrafts and service trade.

China is a large country with a huge population; the levels of mechanization and labor productivity are still very low in many regions and in many fields. It is unrealistic to expect that the large-scale state enterprises alone will be able to serve all the needs of the population. Various forms of public ownership should be utilized to adapt to the different circumstances. With public ownership occupying a dominant position in the economy, individual ownership should also be allowed to perform certain functions which cannot be covered by public enterprises. The past mistake was to regard higher levels and larger scales of public ownership as always more desirable – state enterprises always better than collective enterprises, larger collectives always better than smaller ones. As a result, the development of productive forces was at times not promoted, but seriously hampered.

It is now emphasized that the socialist principle of "from each according to his ability and to each according to his work" must be strictly observed. The right of self-management of the production teams must be respected, and within the teams, various systems of production responsibility may be established which

relate the remuneration to households and individuals more closely to the work performed. In the cities and towns, collective enterprises are to be encouraged, and self-employment is to be allowed to provide more opportunity of employment. In fact, for the past three years, employment was increased by about 20 million, a large part of which was created through collective enterprises.

Accumulation is one of the most important factors in any economic development. Since the founding of the People's Republic, with the elimination of exploitation and the full mobilization of resources, especially the underemployed in rural areas, it became possible to maintain a much higher accumulation rate as compared to earlier periods and thus a much higher growth rate. But too high an accumulation rate not only cuts into present consumption, but also leads to serious disproportions in the economy and actually hampers economic growth.

During the First Five-Year Plan of 1953 to 1957, the accumulation rate – that is, the ratio between investment and national income – was on average about 24 percent. During the "Great Leap Forward," the accumulation rate was raised abruptly to 34 percent in 1958 and to 44 percent in 1959, which led to serious strain in the economy and finally a drastic drop in national income and accumulation. During the early 1970's, the accumulation rate was again raised to above 30 percent, and after the Cultural Revolution, with an overeagerness for quick results in the modernization drive, it was further raised to almost 37 percent. The actual result was an overextension of capital construction, a prolongation of the construction period, a slowdown of improvement in the standard of living, and a serious disproportion between agriculture, light industry, and heavy industry.

China has long emphasized the importance of agriculture as the foundation of the economy, and the importance of industry serving the needs of agriculture. But the growth rate of agriculture has lagged far behind that of industry. In addition to the shortage of arable land relative to population and the erroneous agricultural policies in various periods, the excessive accumulation also had a detrimental effect. In a country where 80 percent of the population are still engaged in agriculture, the major part of accumulation can only come from that sector, even though it may be in the form of high prices and high profits for industry. Moreover, from the beginning of the Cultural Revolution, for twelve years, relative prices were not adjusted to changes in productivity. With the higher productivity increases in manufacturing, the unequal exchange between agricultural products and manufactured products, which had been redressed to a certain extent in earlier years, was again intensified. Agricultural growth suffered as a result, and the light industry which depends heavily on agriculture for its raw materials suffered also.

The development of heavy industry is of course essential for the modernization of the economy. In fact, the establishment of a fairly comprehensive heavy industry is one of the major achievements of the People's Republic. But there was an overemphasis on steel production, while a shortage developed in energy, power, and transportation. It is true that energy and power output has increased tremendously since the founding of the People's Republic. But during the Cultural Revolution and immediately thereafter, there was an undue stress on extraction of oil and coal relative to exploration and excavation, so that the high growth rate could not be maintained. The excessive accumulation rate also caused such an expansion and inefficiency in new construction that it used up a large part of energy and power production and transportation facilities, while much of the existing productive capacity was not fully utilized due to lack of supply.

Correcting Disproportions

Since 1979, much effort has been made to correct these disproportions. Purchasing prices of major agricultural products have been raised, agricultural taxes reduced, and state investment in agriculture increased. As for light industry, greater priority has been given to supplying it with energy, power, raw materials, and transportation facilities, and to the provision of state investment, bank credit, and foreign exchange. Within heavy industry, greater attention has been paid to the maintenance of sectoral balances; expansion of productive capacity which does not have assurance of energy and raw material supply has been curtailed. In addition to increasing rural income, urban wages, especially those of the lower level, have also been raised, while the appropriation for capital construction in the state budget is reduced.

In the 1950's, China patterned its economic planning and management system mainly on the Soviet model – that is, a highly centralized and administratively managed system. This model played an effective role in concentrating resources for the major objectives, but was not very conducive to bringing into full play the initiative of the enterprises and the workers. The price and market mechanism was relegated to a relatively insignificant role, and the implementation of the economic plan relied mainly on administrative measures. Production targets were often rigidly handed down to the enterprises, material input allocated and output purchased by the state organizations, profits almost entirely turned over to the state, and investment funds granted by the administrative authorities. Thus, the enterprises became more and more an appendage of the administrative departments.

The defect of such a system was recognized even in the 1950's. As early as 1956, a decision was made to study the problem – how to share power and returns properly among the central authorities, the local authorities, and the enterprises. But the study was interrupted first by the "Great Leap" and then by the Cultural Revolution.

It was only after the Cultural Revolution that it became possible to consider and to debate, in earnest and with an open mind, the problem of the role of enterprises and the role of the price and market mechanism. Since 1979, experiments have been carried out with about 6,600 state industrial enterprises, whose value of output amounts to about 60 percent of the total of such enterprises, by granting them greater power in retaining their own profits, in planning their own production, in selling their products, and in utilizing investment funds. Appropriations of investment funds through the state budget are now changed to bank loans. Some of the producer goods, which were allocated by administrative authorities according to the economic plan, are now pro-

vided to the market for enterprises to choose and to purchase. Some of the enterprises producing consumer goods have also established their own sales agencies instead of selling their products entirely to the state trading organizations. When an industrial enterprise has fulfilled its plan and contracts, it may now arrange its own production and sales outside of the plan. Some enterprises have entered into various forms of integration to promote specialization and coordination.

As the enterprises assume a greater role, the participation of the workers in the management of the enterprises also becomes more significant. The organization of the "congress of workers and staff" in each enterprise, an organization which originated in the 1950's, has been revived and developed. At present, it has only advisory and supervisory power over the management; it is visualized that as the reform of economic management progresses, the "congress of workers and staff" should also have decisive power over major issues of the enterprise, including the right to appoint or replace the enterprise's leading members.

The program of readjustment and reform has achieved some noticeable results. With the increase of agricultural purchasing prices and the adoption of proper agricultural policies, the livelihood of the rural population has clearly improved, and agricultural production increased substantially in 1979.

On the other hand, new problems and new difficulties also appeared. During the last two years, there was a strong inflationary pressure. In increasing agricultural purchasing prices and wages, while keeping constant the selling prices of essential products, the state budget incurred substantial deficits. At the same time, capital construction has not been sufficiently reduced. While the central authorities cut their investment projects, the local authorities and the enterprises, with their newly acquired greater autonomy or self-management power, often maintained or even increased their investment expenditures. In fact, these latter expenditures actually restrained the central authorities from investing in highly needed fields, such as energy, power, and transportation. Thus a conflict arises between the readjustment of the various proportions and the reform of the structure of economic management. At present, the emphasis is on readjustment; the experiment of reform with 6,600 enterprises will be continued, but will not be extended to other enterprises for the time being.

Piecemeal Reform

Does this mean that the recent reform in China is a short-lived one, that such piecemeal reform is doomed to failure?

There is a story about piecemeal reform. A country with a traffic rule of driving on the left side was trying to switch to driving on the right side. It experimented with a small number of cars driving on the right side first, and as a result of the experiment, decided against changing the rule.

China of course has not decided against reform. Reform measures favorable to the current readjustment, such as changing investment appropriation to bank loans, are still being extended. Extension of other reform measures may have to wait until the inflationary pressure is under control and the disproportions in the economy as well as the irrationality in relative prices are more or less rectified.

When the program of readjustment and reform was first proclaimed at the end of 1978, it was scheduled to last three years. It is now apparent that the readjustment will go beyond 1981 and the reform will take even longer. In any case, the problems of balancing centralization and decentralization, of balancing administrative measures with the price and market mechanism in the implementation of the economic plan, will always be problems that the planners of a socialist economy will have to deal with. To refer to the story of the traffic rule, the problem is perhaps not one of choosing between driving on the right side or on the left side, but of deciding how the number of lanes should be divided between the two sides. Having all the lanes on one side may not be the best way of organizing the traffic.

How does this period of readjustment affect China's foreign economic relations?

Since the end of the Cultural Revolution, China has adopted the policy of fully utilizing the possibilities of international economic relations to facilitate its economic development. That policy is not likely to change unless there is some drastic change in the international environment. But in 1978, owing to errors in planning and a lack of experience, import of complete sets of equipment or turnkey plants was not only beyond the absorptive capacity, but also added to the disproportions in the economy. During the readjustment periods, the scale of such imports had to be reduced and some of the old import contracts had to be postponed or canceled. But the total volume of imports and exports has been increasing steadily.

From a longer point of view, China's requirement for foreign technology and equipment is tremendous. For the coming decade, the emphasis will be on new technology and key equipment for the improvement of existing enterprises, rather than complete sets of equipment or turnkey projects.

Will the reform of economic management change the basic development strategy of China?

The basic development strategy of China is to follow the socialist path and to be self-reliant. But the socialist path is not to be misconstrued as "the higher the level of public ownership the better," nor is self-reliance to be misinterpreted as autarky. Public ownership of the means of production will remain the dominant feature of the Chinese economy. And China is such a large country with such a large population that it must rely mainly on its own efforts for its modernization.

The emphasis of the role of enterprises may lead to excessive concern by each small group for its own interest without caring for the interest of the whole. The increased use of the price and market mechanism in the implementation of economic plans may also lead to excessive concern for material rewards without striving for higher ideals and higher values. This is perhaps why China has recently emphasized once again the importance of ideological education. The progress of a socialist society can only be attained through an interaction of economic development and ideological advance.

The development strategy of China is still very rudimentary. It is still seeking and experimenting for solutions. In this, it has much to learn from other countries. ■

Pu Shan is Kenan Professor of Political Economy at Carleton College.

Summer 1981

The Wharton Magazine

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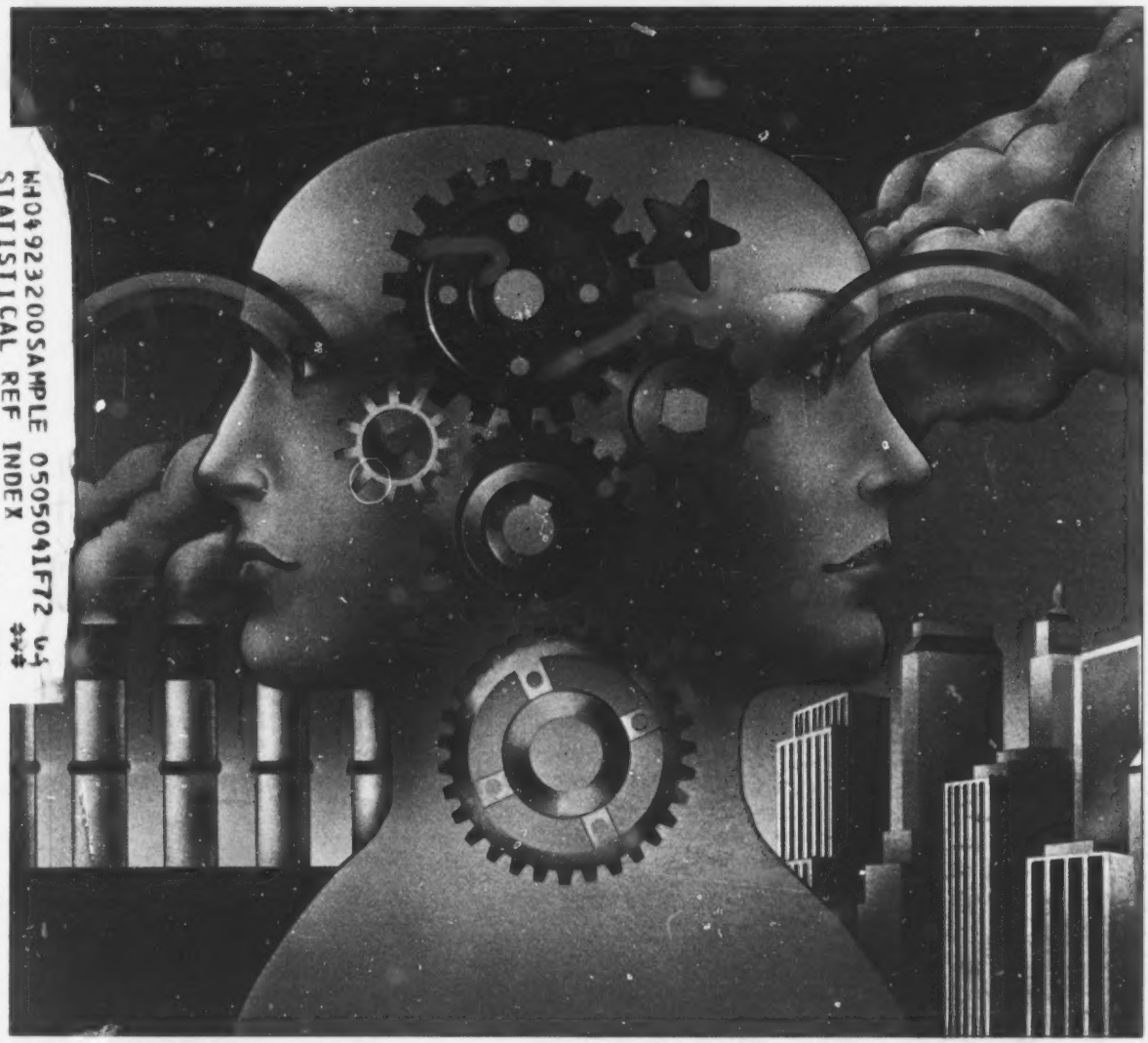
One Day In The Life: Alice In Numberland



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Today's Young Managers: They Can Do It, But Will They?

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The Wharton Magazine

Vol. 5 No. 4

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Advertising: Jack Aldrich, Director of Advertising Sales, at same address. (215) 243-8999.
Advertising Representative: Rob Sennott, The Leadership Network, Suite 321, 230 Park Avenue, New York, NY 10017, (212) 682-4500. **Publisher's Representative:** *New England:* Joe Delone, Joe Delone and Associates, P.O. Box 271, 22 Welwyn Road, Riverside, CT 06878, (203) 637-2758.

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All subscription correspondence:
The Wharton Magazine, Subscription Department, P.O. Box 581, Martinsville Center, Martinsville, NJ 08836. Printed by The Winchell Company, Philadelphia, PA 19107. Prices for reprints and bulk orders on request.
U.S.P.S. #432950. Second-class postage paid at Philadelphia, PA. Application for Audit Bureau of Circulations Membership has been made November 1980.

An International Comparison

Why Do Growth Rates Vary?

Growth rates vary tremendously from country to country and from time to time. It is difficult to detect any consistent patterns in the sources of growth.

By Charles R. Hulten

THE slowdown in U.S. labor productivity has become a serious national concern. From 1948 to 1966, productivity in the business sector grew at an average annual rate of 3.5 percent, but it grew at only 2.1 percent from 1966 to 1973, and at 1.1 percent per year over the period 1973-1977. These are hardly healthy vital signs, and they have received a great deal of publicity.

It is probably less well known that the problem is international in scope. According to estimates by the Organization for Economic Cooperation and Development, productivity in Germany, France, Italy, Japan, and Great Britain fell from an average annual rate of 4.8 percent over the period 1963-1973 to an average rate of 1.9 percent for the period 1973-1979.

The pervasive scope of the productivity slowdown gives new importance to the old question: what factors determine economic growth and explain differences in growth among countries? Economists have tended to answer this question by using a "sources of growth" analysis. Under this approach, the rate of change of real national product is allocated among the growth rates of capital, labor, and technical change, and the percentage of total growth attributable to each is then calculated. The result is a picture of the relative importance of the factors underlying the growth of each economy.

In this article we will review the results of one recent international productivity comparison. This study, by Laurits R. Christensen, Dianne Cummings, and Dale W. Jorgenson, covers the time period 1960-1973. The findings of this study will be summarized and interpreted in light of differences in tax policy, the rate of return to capital, and gross saving rates. We will see that no single factor consistently explains international differences in growth rates, and we will comment briefly on the implications of this for new supply side economic policies.

(I have selected this study for review because of its relatively recent publication date, and because it contains a wealth of supplemental data which are useful in interpreting patterns of growth. The interested reader may wish to consult the literature review provided in the Christensen study for additional references to the growth literature. See Suggested Reading.)

Finally, we will examine two theories of short-run differences in international growth rates which are based on the importance of technical progress and institutional change. One theory of differential growth rates – the "catching-up hypothesis" – holds that the technologically backward countries will tend to grow more rapidly because they can appropriate best-practice technology from the more advanced countries. Another theory – due to economist Mancur Olson – holds that differential growth rates are due to an "institutional sclerosis" which sets in when nations experience long periods of time without major political or economic shocks (such as a major military defeat).

Table 1: Rates Of Productivity Growth

Country	1963-1973	1973-1979
Canada	2.4%	0.4%
France	4.6%	2.7%
West Germany	4.6%	3.2%
Italy	5.4%	1.6%
Japan	8.7%	3.4%
Great Britain	2.0%	0.3%
United States	1.9%	0.1%

Source: *National Accounts of OECD Countries*, Paris, Organization for Economic Cooperation and Development.

The Sources of International Growth

The sources of growth model is the basic framework used by economists in their empirical analysis of economic growth. In the sources of growth analysis, the rate of growth of aggregate real product is allocated to the growth rate of aggregate capital input (multiplied by a factor indicating the impact of capital on output growth), *plus* the growth rate of aggregate labor input (multiplied by its impact factor), *plus* the growth rate of technological and managerial improvements. This last term measures the increased efficiency with which capital and labor are used, and is thus termed "total factor productivity." In practice, it is measured as a residual and therefore embodies measurement errors as well as the contribution of technology and management to growth.

The sources of economic growth for eight industrialized countries are shown in Table 2. Lines 1 and 6 contain the average annual growth rates of real gross private domestic product for two different time periods. It is evident from Table 2 that Japan experienced the most rapid growth in real product, while the United Kingdom grew at the slowest rate and the United States was next to last.

The sources of these growth patterns are shown in the remainder of Table 2. Lines 2 and 7 show the combined growth rate of capital and labor, weighted by their impact factors, and lines 3 and 8 show the growth rate of total factor productivity. Not surprisingly, the Japanese economy led all others with the largest growth rates in almost all of the sources

Charles R. Hulten is a senior research associate at the Urban Institute in Washington, D.C.

of growth. The exceptional performance of the Japanese economy makes it an outlier among the large industrial democracies, and Japan must be treated accordingly in any attempt to understand international differences in growth.

It is also instructive to note that those countries not occupied by a hostile foreign power during World War II – Canada, the United Kingdom, and the United States – had lower overall growth rates of real product and total factor productivity in the postwar period than those nations which were occupied during the war. We will return to this point later, and now note only that the ability to achieve high rates of productivity increase was greatest amongst those countries which were forced to reestablish their economic and political structure, and to rebuild their stocks of capital.

The main conclusion which emerges from Table 2, however, is that there is a tremendous variation in growth rates across countries, time periods, and sources of growth. Growth in some countries decelerated during the 1960's (Italy, West Germany), while in others it accelerated (France, Japan, the Netherlands, Great Britain, and the United States). There is also a great diversity across countries in growth rates of capital, labor, real product, and total factor productivity, and it is difficult to detect consistent patterns in the sources of growth.

This last finding is even more apparent when the growth rates of Table 2 are presented in a different way. In Table 3, the growth rates of total factor productivity, capital, and labor (the last two weighted by their impact factors) are divided by the corresponding growth rate of real product. The resulting numbers indicate the percentage contribution (and thus the importance) of each factor to the growth of output. Inspection of the estimates of Table 3 reveals that capital accumulation was the dominant source of growth in seven instances, while total factor productivity growth was the dominant source of growth in nine instances. The growth of labor input was the *least* important source of growth in all but two

Table 2: Average Annual Growth Rates Of Real Product, Real Factor Inputs, And Total Factor Productivity

	Canada	France	W. Germany	Italy	Japan	Netherlands	Great Britain	United States
	Average Annual Growth Rates							
	1947-60	1950-60	1950-60	1952-60	1952-60	1951-60	1955-60	1947-60
1. Real Product	.052	.049	.082	.060	.081	.050	.033	.036
2. Real Factor Input	.035	.020	.036	.026	.047	.027	.018	.025
3. Total Factor Productivity	.017	.029	.047	.034	.034	.023	.015	.011
4. Real Capital Input	.068	.047	.069	.033	.045	.040	.045	.046
5. Real Labor Input	.011	.003	.016	.022	.048	.014	.002	.012
	1960-73							
6. Real Product	.051	.059	.050	.048	.109	.056	.038	.041
7. Real Factor Input	.033	.029	.024	.022	.064	.030	.018	.029
8. Total Factor Productivity	.018	.030	.030	.026	.045	.026	.021	.011
9. Real Capital Input	.049	.063	.070	.054	.115	.066	.046	.040
10. Real Labor Input	.020	.004	.007	.002	.027	.003	.000	.022

Source: Christensen, Cummings, and Jorgenson (1978), Table 11. The growth rates of capital inputs, labor input, and total factor productivity do not sum to the growth rate of real product because capital and labor are weighted by their shares in total cost.

Table 3: The Relative Importance Of Alternative Sources of Growth

	Canada	France	W. Germany	Italy	Japan	Netherlands	Great Britain	United States
	Average Annual Growth Rates							
	1947-60	1950-60	1950-60	1952-60	1952-60	1951-60	1955-60	1947-60
1. Contribution of Real Capital Input	.549	.365	.310	.220	.197	.381	.513	.497
2. Contribution of Real Labor Input	.127	.039	.120	.215	.380	.155	.042	.204
3. Contribution of Total Factor Productivity	.325	.595	.568	.565	.421	.465	.445	.303
	1960-73							
4. Contribution of Real Capital Input	.430	.444	.520	.435	.437	.509	.468	.401
5. Contribution of Real Labor Input	.209	.043	– .074	.020	.147	.031	– .006	.317
6. Contribution of Total Factor Productivity	.361	.513	.556	.545	.414	.460	.538	.282

Source: Christensen, Cummings, and Jorgenson (1978), Table 12.

instances.

The pattern revealed by these numbers leads to the same conclusion advanced by economist Edward F. Denison in summarizing his famous study, *Why Growth Rates Differ*: "The broadest generalization emerging from the study is that there are many sources of growth and these vary greatly in importance from time to time and place to place." Thus, while Denison's scope and methods are quite different from those described above, this essential result is the same.

The estimates presented above refer to the *rates* of growth of various countries. What can be said about the corresponding differentials in the absolute *levels* of productivity? This is an interesting question, because it turns out that the United States continues to enjoy a lead in the levels of labor productivity and total factor productivity even though other countries experienced more rapid growth rates.

Christensen, Cummings, and Jorgenson have, in a companion to their original study, developed estimates of absolute productivity differentials among countries. A summary of their total factor productivity comparison is given in Table 4. As of 1973, the United States led all its major trading partners in the efficiency with which inputs are used to produce output. Great Britain and Japan displayed the lowest degree of efficiency relative to the United States, while Canada and Germany showed the highest.

Table 4: Total Factor Productivity Relative to the United States

Year	Canada	France	West Germany	Italy	Japan	Netherlands	Great Britain
1960	.843	.643	.737	.716	.538	.724	.700
1961	.838	.654	.748	.740	.589	.731	.701
1962	.836	.658	.742	.740	.553	.708	.677
1963	.846	.667	.740	.730	.583	.690	.677
1964	.851	.679	.768	.731	.614	.715	.689
1965	.859	.685	.785	.762	.604	.716	.677
1966	.864	.692	.770	.770	.623	.704	.678
1967	.859	.713	.752	.801	.658	.733	.699
1968	.873	.719	.810	.808	.706	.751	.706
1969	.868	.757	.869	.851	.735	.782	.704
1970	.914	.788	.909	.876	.778	.828	.742
1971	.916	.789	.900	.830	.771	.829	.769
1972	.909	.791	.892	.827	.778	.845	.770
1973	.907	.806	.906	.849	.780	.855	.755

Source: Christensen, Cummings, and Jorgenson (1980), Table 8.

The "efficiency lead" is good news from the American point of view. The bad news is that the gap has been narrowing, and it is now (in 1981) possible that the United States has been overtaken by some or most of its major trading partners.

Table 5 presents estimates of the absolute level of output per capita. These results show that the United States is again the leader among its major trading partners, but, unlike the efficiency gap of Table 4, the per capita output gap does not appear to be closing rapidly (except between the United States and Japan – and it should be noted that Japan started from a very low level).

Through 1973 then, the ability of the U.S. population to produce output exceeded that of its major trading partners. This conclusion is again subject to the qualification that major changes in the relative rankings may well have occurred since 1973. Also, output per capita is not the same as output per worker employed

The Sources of Japanese Growth

ALTHOUGH it is appropriate to treat Japan as a singular case in almost any discussion of comparative growth rates, the available statistics do provide some very provocative clues as to the sources of its astonishing growth.

Table 5, for instance, indicates that Japan's per capita output, when compared to that of the United States, was substantially lower, in 1960, than that of any other country in the comparison. By 1973, however, its per capita output, in comparison to the United States, had exceeded that of Italy and Great Britain and was approaching West Germany's.

The factors supporting this growth from very low levels have shifted over time. According to Table 3, the contribution of labor to Japanese growth in the period 1952-1960 was much higher than any other country in that time frame. In the later period, 1960-1973, the importance of Japanese labor declines dramatically as a contributor to growth, and the slack is taken up by capital input.

The very high level of investment in Japan during the period 1960-1973 is confirmed in Table 6, where it has the highest level of investment share of any of the countries in the comparison. Correspondingly, Japan also experienced the highest return to capital over this period.

Table 7 provides some historical comparisons. The very high Japanese growth rate in the postwar period may be seen as a bouncing back from the very low rates in the period 1925-1950. It is interesting to note that, prior to 1925, Japanese growth rates were quite high compared to those of various European nations, and were more comparable to those of the United States and Canada. –C.R.H.

Table 5: Per Capita Output Relative To the United States

Year	Canada	France	West Germany	Italy	Japan	Nether-lands	Great Britain
1960	765	541	618	375	285	530	537
1961	758	560	642	402	331	537	556
1962	758	559	635	408	326	531	537
1963	768	572	612	415	355	530	544
1964	779	586	636	407	385	552	553
1965	780	585	644	393	386	552	539
1966	779	585	619	393	403	537	525
1967	775	601	586	414	436	549	531
1968	777	601	632	420	487	563	530
1969	783	633	675	434	523	583	522
1970	811	675	721	460	583	623	546
1971	822	684	716	434	603	632	550
1972	809	678	700	420	615	631	547
1973	807	680	695	418	620	622	552

Source: Christensen, Cummings, and Jorgenson (1980), Table 5.

(the traditional measure of "productivity"), since the rate at which the population is employed varies across countries. However, the rate of employment is itself an aspect of overall economic efficiency, and the results shown in Table 5 are valid indicators of national "productivity."

The diversity of growth patterns revealed by Tables 2, 3, 4, and 5 would not be remarkable if the diversity could be explained by a common set of underlying causal factors. Variations in the growth rates of capital, labor, and total factor productivity would, in fact, be expected if the underlying causal factors varied across countries. The list of potential causes includes gross saving rates, the rate of return to capital, tax policies, the magnitude of social insurance programs, and the proportion of total investment bid away from business investment and into housing and consumer durables.

The gross saving effort of an economy can be measured by the amount of gross private production allocated to investment goods (as opposed to consumption goods). In general, the greater the gross saving effort, the greater the effort at capital accumulation, and thus, the greater the impetus to economic growth. One would thus expect that (other things being equal), countries with higher sustained saving rates will tend to have more rapid rates of economic growth. Column 2 of Table 6 provides only partial confirmation of this expectation. The high-growth economies of Japan and West Germany did indeed have high rates of gross saving (44 percent and 40 percent, respectively), while the low-growth economy of Great Britain had the smallest rate of gross saving (25 percent). The remaining saving rates were, however, quite similar (ranging between 28 percent and 34 percent) while the corresponding rates of output growth were rather less similar. This effect is particularly noticeable in comparing the experiences of France, Italy, and the United States.

The preceding remarks concerning the relationship between investment rates and economic growth must, of course, be viewed in light of the kind of investment goods which are being produced. If investment is being channeled into housing and consumer durables rather than into business plant and equipment, then high rates of total investment may not lead to corresponding high rates of economic growth. Column 6 examines the importance of this factor by looking at the composition of investment for the year 1970. The very high-growth economy of Japan had a very low fraction (24 percent) of its investment allocated to consumer capital, but so did the low-growth economy of Great Britain (25 percent). With the exception of Italy, the remaining economies allocated rather similar proportions of investment to consumer capital, and it is difficult to detect a systematic influence of investment composition on economic growth.

This discussion of the relationship between investment rates and economic growth is particularly important in view of the recent trend in U.S. economic policy toward supply side economics. The stimulation of economic growth through increased capital accumulation is one of the main items on the supply siders' policy agenda. This is reflected by the effort to raise after-tax rates of return to capital by rapidly accelerating depreciation allowances (via the Conable-Jones 10-5-3 proposal). Since supply side proponents frequently make international comparisons to support their views, it is instructive to examine international differences in rates of return and business taxes.

Estimates of the average after-tax rate of return to capital (including consumer capital) are shown in column 3 of Table 6. These estimates are adjusted for inter-country difference in inflation rates, and cover the period 1960-1973. Japan, as usual, is the leader in generating a high return to capital, with West Germany also exhibiting a high rate of growth and investment share. On the other hand, Great Britain and Italy both have high rates of return and lower gross savings rates, and both are among the slowest growth performers in the sample. Furthermore, the Netherlands show a lower rate of return than the United States but higher savings and growth rates. It is therefore difficult to discern a dramatic relationship between cross-country improvements in the rate of return and improvements in the rate of growth.

The parameters of business tax policy are shown in columns 4 and 5 of Table 6 (these are based on the study by George Kopits). The maximum marginal corpo-

Table 6: Causal Parameters of Growth

	Growth Rate of Real Product (Table 2), Average 1960-73	Share of Investment Goods in Gross Private Domestic Product, Average 1960-73[a]	Rate of Return of Capital Adjusted for Inflation, Average 1960-73[b]	Maximum Marginal Corporate Tax Rate, 1973[c]	Relative Importance of Accelerated Depreciation and Investment Tax Credit, 1973	The 1970 Share of Total Investment Allocated to Consumer Capital[d]
Canada	5.1%	.32	5.5%	NA	NA	.31
France	5.9	.31	7.4	50%	−0.1%	.34
West Germany	5.0	.40	7.2	39[e]	−6.1	.37
Italy	4.7	.28	7.0	44	4.6	.45
Japan	10.9	.44	10.8	31[e]	−4.6	.24
Netherlands	5.6	.34	5.2	48	−5.2	.35
Great Britain	3.8	.25	7.5	50	6.5	.25
United States	4.1	.30	5.8	48	1.1	.36

[a] Source: Christensen, Cummings, and Jorgenson (1978), Table 2.
[b] Source: Christensen, Cummings, and Jorgenson (1978), Table 5.
[c] Source: Kopits (1980), Chart 2, and unpublished material.
[d] Source: Christensen, Cummings, and Jorgenson (1978), Table 4.
[e] Average rate of tax on dividends and retained earnings.

rate tax rates for all countries except Germany and Japan were approximately 50 percent in 1973. The tax rates for these two countries are lower because they tax dividends at a lower rate than retained earnings. In Japan, the marginal tax on retained earnings was 37 percent in 1973, and 53 percent in West Germany. These figures are more in line with the U.S. tax rate of 46 percent than the figures shown in column 4.

Relative differences in tax depreciation and investment tax credit policies are estimated in column 5 of Table 6. The figures shown in this column measure the difference (in present value terms) between actual depreciation/tax credit policies and a neutral depreciation policy based on underlying economic (or true) depreciation. This difference is multiplied by the U.S. tax rate and expressed as a percentage of capital asset price. A negative number indicates that actual depreciation/tax credit policies are less generous than economic depreciation, and a positive number indicates a more generous policy. Column 5 thus shows that all the high-growth countries had less generous depreciation policies, while the slowest growers had the more generous policies. The relationship between liberalized depreciation and economic growth is thus the opposite of conventional expectation. It may even be the case that slow growth created liberalized depreciation policies as a remedy, rather than the other way around.

It should be emphasized that the tax parameters of columns 4 and 5 are not total effective tax rates, and thus do not capture the full tax burden imposed on capital income in various countries. The numbers shown in these columns must therefore be taken as suggestive of the relative tax burdens. Furthermore, reductions in the tax burden within a given country may well stimulate capital formation and economic growth, even though international tax comparisons do not reveal significant across-country effects. However, even with these caveats in mind, the data suggest that it is dangerous to use international comparisons of tax policy to support the case for reducing U.S. tax burdens in order to stimulate growth.

One final policy remark is in order. Economist Martin Feldstein has argued that international differences in social insurance programs are a significant factor in explaining differences in personal saving rates (personal saving rates are a component of the gross saving rates discussed earlier). Social insurance is a substitute for other forms of private saving, and an increase in social insurance benefits should therefore tend to reduce other private saving. This substitution would not, in itself, reduce total saving if governments put social insurance receipts into an actuarial fund to finance future disbursements. In this case, the reduction in other private saving would be offset by an increase in government saving. On the other hand, if social insurance is financed on a current "pay-as-you-go" basis, then there is no offset to the reduction in other private saving, and total saving, capital accumulation, and growth are adversely affected.

Pay-as-you-go social insurance programs do act as a potential lag on economic growth, but the empirical significance of this effect is not completely settled. The international comparison published by economists Robert J. Barro and Glenn M. MacDonald in 1979 did not find a significant effect of social insurance on saving rates, and further research will be necessary to sort out the problem.

Causal Factors: A Second Look

The preceding discussion has been framed entirely in terms of the post-World War II era. This was a period of unprecedented growth (witness the comparison shown in Table 7), and a period of recov-

Table 7: Rates of Economic Growth For Different Time Periods

Countries	1870-1913[a]	1913-1929[a]	1925-1950[a]	Average Annual Growth Rate Post-War to 1973[b]
Canada	3.8%	2.4%	3.2%	5.1%
France	1.6	1.7	0.0	5.5
West Germany	2.8	0.4	1.9	6.4
Italy	1.4	1.8	1.0	5.2
Japan	3.3	3.9	0.6	9.8
Great Britain	2.1	0.8	1.6	3.7
United States	4.3	3.1	2.9	3.9

[a] Source: U.S. Department of Commerce, *Long-Term Economic Growth, 1860-1965*, Table IV.7. Estimates refer to growth rate of gross *national* product.

[b] Source: Average rates of growth of gross *domestic* product from Table 2 (compound average of lines 1 and 6). Gross domestic and gross national products are different output concepts, and should be interpreted accordingly. The general trends are, however, roughly comparable.

ery from an immensely devastating war. The very uniqueness of this era may require alternative, noneconomic, explanations for observed international differences in growth rates.

The catching-up hypothesis is one such explanation. The economies of Western Europe and Japan are viewed as rebounding from the war in approximate proportion to the extent of their devastation. The greater the fall from their prewar income level, the greater was the ability of these industrial economies to grow rapidly by absorbing U.S. capital and technology. They were, in effect, catching up to the United States and to their own natural propensities to grow.

The observed growth patterns of Table 2 are consistent with the catching-up hypothesis. Germany and Japan did have the highest growth rates and were the principal partners of the defeated Axis. France, the Netherlands, and Italy, all of which experienced occupation during the war, had the next highest growth rates, and the unoccupied countries, the United States, Great Britain, and Canada, had the lowest growth rates. The catching-up hypothesis does not, however, explain why only some occupied countries had growth rates which decelerated during the 1960-1973 period (Germany, Italy), while others accelerated (Japan, France, the Netherlands). Nor does the hypothesis explain why Great Britain, whose economy was more seriously affected during the war, should have a lower rate of growth than the United States. Consequently, the catching-up hypothesis cannot be regarded as a complete theory of differential growth rates.

An alternative theory, due to economist Mancur Olson of the University of Maryland, focuses on the structure of economic institutions. According to this theory, as the institutions age, they become more capable of pursuing their own special goals at the expense of overall economic growth. Labor unions, for example, may bargain for restrictions on work practices (like the amount of labor-saving devices which can be used on the job), and for the overmanning of jobs. The result is an "institutional sclerosis" which limits the rate of national growth. However, when a cataclysmic national event like a major military defeat occurs, the power of the special interest groups is diminished, and in some cases eliminated. Institutional sclerosis is thus reduced, and the country experiences a surge of economic growth.

The Olson hypothesis, like the catching-up hypothesis, explains the high rates of growth in Germany and Japan relative to Great Britain and the United States. It is also subject to the same criticisms. Neither theory fully explains international growth patterns, and thus neither can be considered as a complete explanation. Both theories are, however, probably important elements of the complete story.

What, then, explains international differences in growth rates? The answer seems to be that many factors are important, and that no single factor or explanation is adequate. A complete explanation will therefore be a complex one, and the task of developing such an explanation still has a long way to go. ■

Suggested Reading

ROBERT J. BARRO AND GLENN M. MACDONALD, *"Social Security and Consumer Spending in an International Cross Section,"* Journal of Public Economics, *Fall 1979. A study that found no significant effect of social insurance on saving rates.*

LAURITS R. CHRISTENSEN, DIANNE CUMMINGS, AND DALE W. JORGENSON, *"Economic Growth, 1947-1973: An International Comparison,"* in *John W. Kendrick and Beatrice N. Vaccara, Eds.*, New Developments in Productivity Measurement and Analysis, *University of Chicago Press, 1978. The basic study discussed in this article.*

LAURITS R. CHRISTENSEN, DIANNE CUMMINGS, AND DALE W. JORGENSON, *"Relative Productivity Levels, 1947-1973: An International Comparison," Harvard Institute for Economic Research, 1980. Forthcoming in the* European Economic Review. *An extension of the earlier research.*

EDWARD F. DENISON, Why Growth Rates Differ: Postwar Experience in Nine Western Countries, *The Brookings Institution, 1967. An earlier study of differential growth rates.*

LAWRENCE R. KLEIN, *"The Competitive Position of the United States,"* The Wharton Magazine, *Summer 1980. Analyzes the international economic position of the United States and makes various policy recommendations.*

GEORGE KOPITS, Tax Provisions to Boost Capital Formation Vary Widely in Industrial Nations, *International Monetary Fund, 1980.*

The Wharton Magazine Economic Newsletter

Econometric Forecast

For the United States, 1981.2—1984.1

Prepared by
Lawrence R. Klein, R. Jeffery Green, Allen Gutheim, Edward A. Friedman, Stephen Able, Edward Hill, Wayne Tarken, James Baer, and Ellis Tallman
Wharton Econometric Forecasting Associates

Oil Glut And Tax Cut Help U.S. Outlook

Why did the gross national product grow so rapidly in the first quarter, and why is growth slowing now? The increase in GNP in the first quarter was spread through virtually all components of the total. While there was inventory decumulation in the first quarter, it was $4.9 billion smaller than the decumulation in the fourth quarter and hence helped to raise GNP. In fact, apart from automobile and farm inventories, inventories rose by $4.3 billion at an annual rate despite strong increases in demand. Thus production was very strong in the first quarter. The rest of GNP, final sales, rose by $25.5 billion at an annual rate in the first quarter. Of this, personal consumption expenditures rose $11.5 billion, fixed investment rose $5.3 billion, net exports increased $5.4 billion, and government purchases increased $3.4 billion.

The sharp increase in consumer expenditures was led by the 12% jump in auto purchases in the first quarter, a result of extensive rebate programs. With these programs largely ended, sales have slumped dramatically. However, auto production remains strong, particularly because several new models are being introduced; and so while consumer purchases will be lower, there will be significant inventory accumulation in the automobile sector in the second quarter.

While fixed investment showed a strong gain in the first quarter, that performance is not likely to persist in the second quarter. Approximately 30% of total automobile purchases are allocated to nonresidential investment, and with auto sales weakening that component of real investment spending should fall. In addition, real residential investment spending is expected to decline in the second quarter, after showing a small increase in the first quarter, because housing starts have been at low levels since February.

In some respects, the strong showing in our trade accounts was the biggest surprise in the first quarter. Economic growth has been poor in many of the countries that are major U.S. trading partners. Germany, France, and Great Britain are in recession, and Italy and Canada are struggling. Among our major trading partners, only Japan continues to grow rapidly.

The final source of the strength in final demand was the large increase in government purchases, and this was in some sense an aberration. Most of the increase came from the Commodity Credit Corporation component of nondefense federal purchases, and this component fluctuates widely.

In summary, the first quarter growth was derived from a number of unsustainable factors. By the same token, the poor performance in the second quarter is not expected to persist. The economy is fundamentally strong and only a restrictive monetary policy and a weak world economy are expected to be inhibiting factors to economic growth later this year.

The main features of the outlook for 1981 and 1982 are as follows:

- Constant dollar GNP is forecast to rise at an annual rate of 0.3% in the second quarter, and to grow at an average rate of 3.0% for calendar year 1981. Constant dollar GNP is forecast to grow 2.6% in 1982.
- Inflation, as measured by the GNP implicit deflator, is forecast to average 9.6% in 1981 and 9.0% in 1982.
- The unemployment rate is expected to fluctuate in the range of 7.3% to 7.5% through 1982 before beginning to decline significantly.
- Interest rates are expected to moderate slightly this summer before rising to near record levels by year-end as economic growth quickens. Later, in 1982, lower economic growth and somewhat lower inflation are expected to lead gradually to a reduction in interest rates.

To a fair extent, the evolution of the economy over the coming quarters will be determined by the interplay of several largely uncertain factors. Key among these are the outlook for the administration's proposed fiscal plan, monetary policy, and particularly interest rates. In addition, the path taken by world crude oil prices is pertinent as always, and the length of the coal miners' strike will have a visible impact on real growth during the next few months.

Upward movements in interest rates late this year and early next are responsible for

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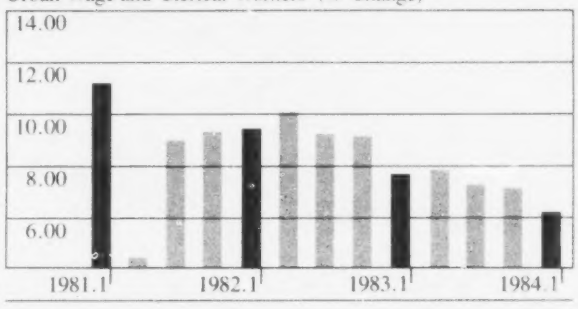
a sluggish summer growth rate in the middle two quarters of 1982. In particular, we expect that the recovery of auto sales will slow at that time, and we expect that housing starts will drop as well. We do not anticipate, however, that a second recession is in the works, and this to a fair extent is due to our expectations regarding fiscal policy.

We continue to assume that a 10% personal tax cut will become effective October 1, 1981. This puts about $33 billion back into consumers' pockets that would not otherwise be there, and we expect that a large portion of this will find its way into personal consumption expenditures in the fourth quarter and during 1982. Without such a cut, the outlook for at least one negative quarter next year would be much enhanced.

A one-year tax cut such as the one we have assumed is virtually assured. In addition, the possibility for a multi-year cut seems to be increasing based on the recent news from Capitol Hill. On the basis of the current forecast, we continue to believe that a one-year cut would be adequate. Economic growth accelerates smartly in 1983 and beyond (with several quarters approaching or exceeding a 5% rate of real growth), and we continue to believe that the drain imposed on the budget from additional cuts and the risk of promoting inflation would not justify the additional growth and employment engendered.

Consumer Price Index

Urban Wage and Clerical Workers (% Change)



We continue to look for easing inflation during the coming years. Measuring by the implicit GNP deflator, we expect inflation in 1983 to be more than 1.5 percentage points lower than our forecast rate for 1981. Much of the drop depends on OPEC oil prices falling close to those we have assumed. We have felt for a while that prices would remain reasonably constant through the end of this year, and the results of the OPEC oil ministers' meeting in Geneva have given us no reason to change our views.

The largest risk to this view is political rather than economic. The developing situation between Syria and Israel over Lebanon shows no signs of abating peacably at this juncture. One possible outcome of the situation would be direct conflict between these two nations. Neither nation is at all crucial in terms of oil exports, but such a conflict would be likely to force the rest of the Arab world to unite against Israel and her ally, the United States. If this were to occur, oil exports to the United States would undoubtedly be disrupted to some extent, and prices would most likely move upward.

Consumption

The automobile rebate program had a noticeable impact on first quarter auto sales, notably in February and March, when unit sales averaged just under 10.5 million at an annual rate. To a fair extent, the programs achieved their goals, helping to reduce auto inventories from about 75 days prior to the rebates to less than 55 days at the end of April. This emptied dealer lots of older design autos in order to make space for the newer types being introduced this year.

However, as in all promotions, many of the sales made under rebate were "borrowed" from spring sales. This, along with rising interest rates, has led to a much lower level of sales currently. We forecast that sales during the second quarter will be at 8.4 million at an annual rate. By itself, this decrease will amount to a $5.7 billion drop in real GNP in the second quarter (worth about 1.5% in real growth).

Following second quarter weakness, overall consumption should perk up through the end of the year as disposable income rises. In the third quarter, a $13.6 billion increase in social security benefits will be joined this year by a 5.3% increase in military pay, if the administration has its way as we have assumed. The annual government pay increase will follow in the fourth quarter on top of the 10% tax cut we have assumed. As a result, real disposable personal income is forecast to increase substantially in both quarters, and consumption will follow, increasing 3.5% and 4.7% at an annual rate in the third and fourth quarters, respectively.

A brief economic slowdown is forecast in early- to mid-1982, primarily as a result of interest rate increases expected in late 1981 and early 1982. Consumption of autos in particular should suffer; we expect durable goods consumption to decline slightly in the first half of 1982. Following mid-1982, interest rates are expected to decline as inflation slowly eases, and we expect continuing increases in personal income and consumption.

Much of the robust consumption in the past quarters has come at the expense of

Forecast: The Next Two Years

Selected Major Economic Indicators — May 27, 1981

Item	1981.2	1981.3	1981.4	1982.1	1982.2	1982.3	1982.4	1983.1
Gross National Product $	2917.30	2995.20	3094.40	3188.40	3267.10	3351.40	3452.70	3559.40
% change	9.20	11.12	13.93	12.71	10.25	10.73	12.65	12.95
Real Gross National Product $ (1972)	1517.20	1524.90	1539.30	1553.30	1558.40	1566.60	1578.00	1596.80
% change	0.32	2.05	3.84	3.68	1.32	2.11	2.95	4.86
Implicit Price Deflator — GNP	192.30	196.40	201.00	205.30	209.60	213.90	218.80	222.90
% change	8.84	8.89	9.71	8.71	8.82	8.44	9.42	7.71
Unemployment Rate %	7.41	7.45	7.36	7.38	7.40	7.44	7.51	7.35

[$ amounts in billions. All $ figures are current dollars except those marked $(1972)]

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personal saving. The saving rate jumped to 6.2% in the slow second quarter last year, then declined to 4.7% in the first quarter of this year as consumers took advantage of the automobile rebates. We expect that the level of saving will increase during the next few quarters, and forecast the saving rate to return to well above 6% by year-end. Thereafter we expect the ratio to remain in the 6% range. Conditions should be such as to allow consumers to steadily increase their consumption without dipping into their savings if inflationary pressures ease and interest rates fall late in 1982 and in 1983, as we expect.

Financial

On a month to month basis, the extraordinary volatility of interest rates continues unabated. The 1,000 basis point rise in short-term rates between August and December of 1980 has not (yet) been matched in amplitude by 1981 developments. But what the last five months lack in heights of peaks and depths of troughs, they make up for in more frequent turning points.

The behavior of short-term interest rates since January is peculiar in relation to growth in real economic activity. Real GNP grew at a 5% annual rate in the fall of 1980 and at an explosive 8.5% in the first quarter of 1981. The normal expectation is that that would produce growth in credit demands and rising interest rates, rather than the choppy downward course that rates followed in the first quarter. The rising interest rates in April and May came as the economy was beginning to decelerate significantly, again a paradox.

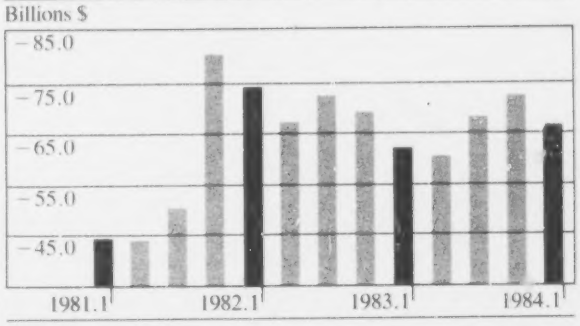
The explanation appears to be related to trends in the growth of the money supply, M1-B. It grew at a 14% annual rate (unadjusted for NOW account shifts) from January to March. This suggests some easing of Fed policy at that time, though the flows into M1-B NOW accounts from savings accounts cloud the issue. Fed concern over that growth led to a renewed tightening of credit in April and May; hence the sharp rise in interest rates, the raising of the Fed discount rate, and the deceleration in the trend in M1-B since early April.

We forecast that rates will decline moderately over the next several months and then rise again in the fall. For example, the Treasury bill rate is forecast to average 16.0% in the second quarter, 14.9% in the summer, and 15.4% in the fall. The prime rate is expected to average no lower than 18.4% in the second and third quarters and then rise to averages above 19% in the fall and winter. After that, gradual moderation in inflation and the expectation of further improvement in inflation should cause interest rates to drop slowly.

The moderate declines in rates forecast for the next several months should be the result of the deceleration of real GNP growth and private borrowing needs. The rise in rates later this year will be the result of two things. The first is continued monetary tightness by the Fed, which has provided ample evidence since early 1980 of its intention to meet its low long-term monetary growth targets. The second is the anticipated tax cut, which will raise federal credit demands to finance the larger deficit, and also private credit demands, which regularly rise when there is a boost to overall economic activity.

Nothing in our forecast suggests any rallying of the bond market before well into 1982. Rates on corporate issues are forecast to rise steadily another 100 to 200 basis points by the spring of 1982. After that, gradually declining inflation is expected to breathe some life into the bond market. Government bonds and home mortgages are also expected to rise another 100 basis points over the same horizon, before falling in mid-1982.

Federal Government Deficit



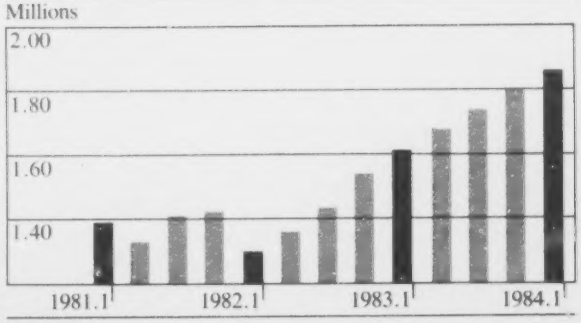
Investment

Housing

Housing starts and mortgage rates are now both rising at the same time, and our analysis leads us to conclude that there has been a significant expansion in unconventional financing during the last several months. We expect this trend to continue for the next few quarters at the very least, helping to cushion the housing market to some degree from high mortgage rates.

While our short-term outlook for the housing industry is certainly not robust, we do expect to see increasing levels of activity throughout the rest of this year. Single-family starts should reach an annual rate of 944,000 units by the fourth quarter, up from the 872,000 rate we witnessed in the first quarter of this year. This modest increase in single-family starts should more than offset the 32,000-unit decline we expect in multifamily starts by year-end. With the housing stock expanding so slowly, it is not at all surprising that the occupancy rates for housing have been rising over the last year, and we ex-

Private Housing Starts



1980	1981	1982	1983
2626.10	2965.20	3314.90	3710.60
8.79	12.91	11.80	11.94
1480.70	1524.40	1564.10	1622.20
−0.16	2.95	2.60	3.72
177.40	194.50	211.90	228.70
8.98	9.65	8.96	7.91
7.15	7.39	7.43	7.19

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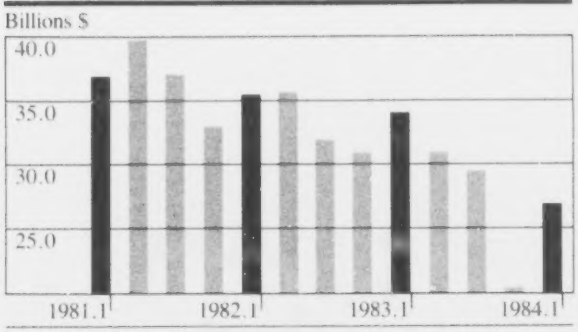
Net Exports of Goods and Services



pect them to continue to rise throughout the forecast period.

We expect continued expansion in the housing industry in 1982 and 1983. While single-family starts may decline by 38,000 units in 1982 from the 1981 rate, multifamily starts are expected to rise by 56,000 units over the 1981 rate. At this point, it appears that 1983 will be a relatively strong year for residential construction. We currently expect total housing starts to rise above the 1.7 million unit level in 1983, an increase of approximately 300,000 units above the level of activity we expect for 1982.

Nonresidential Investment

Beginning with the third quarter of this year, nonresidential investment is expected to gradually accelerate throughout the remainder of the forecast period. This acceleration is due in part to the assumed depreciation rate increase (and hence tax life decrease). The higher depreciation rate will decrease corporate profits and hence retained earnings, but will increase cash flow. As cash flow increases later in the forecast period, funds will become available for more capital expenditure, and hence the accelerated investment growth. Lower interest rates in the latter part of the forecast period will induce additional investment.

The 13.4% growth in the first quarter was spurred on by strong investment in autos and by particularly strong investment in the energy sector. Oil company profits have risen dramatically over the past two years, and the industry views further exploration optimistically. Even the current sluggish product price behavior will have no impact on drilling activity. We continue to expect high levels of investment in the energy sector, and this will bolster aggregate nonresidential investment throughout the forecast period. Increased leasing for offshore drilling will also add to investment in the energy and mining sectors. Manufacturing is turning around and should display positive growth in the third quarter, typical of the gradual cyclical upswing this sector traditionally displays following an economic downturn.

Government

The Reagan administration's spending proposals have recently received strong support in both houses of Congress, and it is now likely that the final federal budget approved by Congress will include an expenditure portion quite similar to that proposed by President Reagan in March. While the possibility of a multi-year tax cut has increased, it is still likely that the final tax cut will not be as similar to the Reagan proposal as will the final spending package.

Our estimate of the federal budget reflects the spirit if not the letter of the Reagan administration's spending proposals. Over the entire forecast period, our estimates for defense proposals, subsidies less current surplus, and social security and food stamp benefits are the same as the administration's proposals. Our forecasts for nondefense spending are $8 billion above the administration's proposals, primarily because of the anticipated upward pressure on spending resulting from the higher rates of inflation in our forecast. Our estimate of net interest exceeds that in the Reagan budget because of substantially higher interest rates in our forecast. We also assume that grants-in-aid will be somewhat higher, both because of the impact of higher inflation and because we expect that some of the popular spending programs included in this category will receive substantial eleventh-hour support when the details of the spending portion of the budget are worked out.

We assume that there will be only a single 10% personal tax cut, effective October 1, 1981. The business cuts we have assumed are similar in magnitude to those proposed by the Reagan administration, but resemble more closely in specific form the package passed last fall by the Senate Finance Committee.

The personal tax cut is at about a $33 billion annual rate and so results in a tax savings of about $8 billion in calendar year 1981. Changes in depreciation rules result in a personal tax savings of about $2 billion, in addition to a reduction in corporate taxes of about $8 billion. The remaining business tax cuts result in a further $2 billion reduction in corporate taxes.

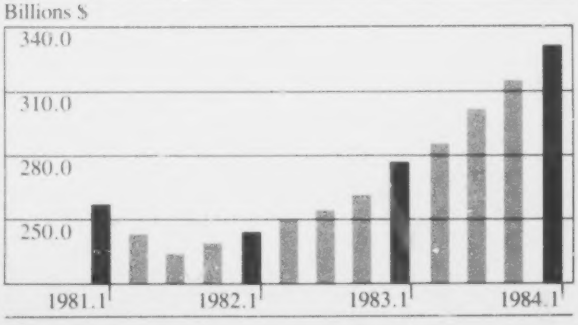
These assumptions lead to a federal budget that produces deficits of $53.2 billion in fiscal year 1981, $77.2 billion in fiscal year 1982, and $69.1 billion in fiscal year 1983.

The state and local sector appears to be in good shape over the forecast period, with operating surpluses of $3.0 billion in 1981, $2.7 billion in 1982, and $4.3 billion in 1983.

Foreign Trade

The international economic outlook for 1981 is not good. Germany, France, Italy, and Great Britain are all in recession. Canada is coming out of a period of slow growth, and even Japan is growing more slowly than in earlier periods. As a result, unemployment rates have been rising in Europe, particularly in Great Britain and France. Indeed, the increase in unemployment may have played a significant

Corporate Profits Before Tax



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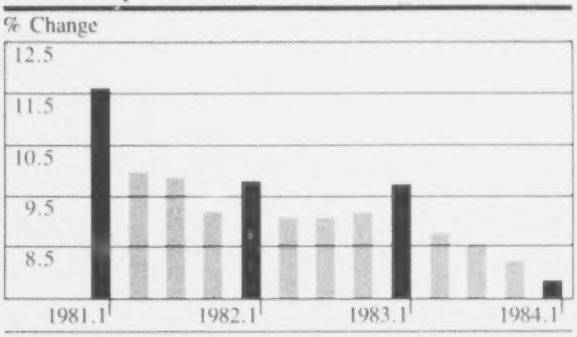
Private Compensation Per Manhour



role in the recent French election.

The outlook is for the international economy to improve somewhat after 1981, although progress is expected to be slow. With the current poor economic performance and slow forecast recovery, overall world trade is expected to decline this year and to grow slowly over the next several years.

The good news on the international scene is the outlook for world oil prices. Spot prices have been falling because of reductions in the demand for petroleum, and it now appears likely that OPEC prices will hold at current levels through the end of 1981. With oil prices stable and economic growth slow, import bills for petroleum should show very slow increases at most over the next year, and that will help trade balances for all the oil-importing industrial countries.

With respect to the U.S. trade accounts, we expect a gradual reduction in the current account surplus throughout the forecast period, nearing balance by 1983. Several factors combine to produce this result. The reduction in the growth of world trade stemming from poor economic growth is expected to reduce the growth rate in U.S. exports. In fact, the growth rate in exports is forecast to decline further in 1982 before increasing in 1983. This is because the recovery overseas is expected to be slow and also because the lagged effects of the recent appreciation of the dollar in exchange markets should make our exports less competitive. Import growth will also slow in 1981, primarily because stable world oil prices will reduce the growth in the imported fuel bill. Fuel imports in current dollars rose 33% in 1980 but are forecast to rise only 11% in 1981. It is forecast that the slowing in exports will be more significant than for imports and hence the trade accounts will gradually move against the United States.

Over the last eight months higher U.S. interest rates have resulted in significant capital inflows into the United States and revaluation of the dollar relative to other major currencies. Foreign governments have experienced significant increases in the local currency cost of dollar-denominated OPEC petroleum bills. They have lobbied for easing of U.S. interest rates to stem the capital inflows and so to ease pressure on their currencies. But the Fed and the Treasury have ignored their requests. In February it was announced that there would be no further official U.S. intervention in foreign currency markets. One result has been a counterattack by Canada and West Germany in the interest rate war, which has led to extremely high rates in their own financial markets.

For example, in May the Canadian prime rate was 19.5% and the German prime rate was 14.5%.

Capacity Utilization Rates

By Allen H. Gutheim

First quarter capacity utilization rates rose 1.5 percent from their levels in the fourth quarter of 1980. Most sectors of the economy exhibited strong growth during the quarter as real GNP grew 8.4 percent at an annual rate.

The mining sector showed substantial growth in both the fourth quarter of last year and the first quarter of this, as coal users stockpiled in preparation for the second quarter strike. Capacity utilization in this sector should plummet in the current, strike, quarter.

Manufacturing capacity utilization continued its recovery from last year's third quarter low. Utilization in the utility sector continued to drop – the dominant pattern of this series since energy prices began their sharp increase in the first quarter of 1979.

United States: 1st Quarter, 1981

Year	Manufacturing	Mining	Utilities	M.M.U.[1]
1981.1	88.6%	86.6%	85.1%	87.9%
1980.4	87.2	79.3	86.2	86.6
1980.3	83.2	77.1	87.8	83.1
1980.2	85.4	79.1	86.3	85.0
1980.1	91.0	81.0	86.7	90.1
1980	86.7	79.1	86.8	86.6
1979	92.4	79.0	87.5	91.3

[1]M.M.U. = Mining, Manufacturing, and Utilities.

Employment, Wages & Prices

In the short term, we do not see any improvement in unemployment. As the economy improves, increases in production will not be matched by corresponding decreases in unemployment. The unemployment rate is expected to rise this year to 7.45%, then alternatively fall and rise until it declines to 6.85% in the first quarter of 1984.

In the near term, we do not expect inflation to remain at its present low levels, primarily because wage increases have not eased as greatly as the increases in aggregate price indices. Private worker wages rose by 2.7% in the first quarter of this year, compared to a 2% increase during the same period in 1980. As the economy improves during the third quarter, interest rates will remain high in response to the increased loan demand.

Inflation, as measured by growth in the implicit GNP deflator, is forecast to fall during the second quarter to 8.84% at an annual rate, and then to oscillate. Only as consumer inflation expectations abate and interest rates decline is growth in this deflator expected to fall to an annual rate of 6.3% in the beginning of 1984. Growth in the consumer price index, which rose to 13.45% in 1980, is forecast to fall to 9.52% in 1981, 9.15% in 1982, and 8.3% in 1983.

Energy

We have been assuming that world crude oil prices would remain constant through the current year and that thereafter prices would rise a rela-

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tively moderate 12% at an annual rate. In late May, OPEC oil ministers met in Geneva, and the results of that meeting did not indicate that any changes in our assumptions were necessary. The non-Saudi OPEC members agreed to cut production 10%, but much of this cut has already occurred, and we do not anticipate that it will by itself alter the supply-demand imbalance.

The key to oil price stability, aside from the potential for a Syrian-Israeli conflict over Lebanon, is Saudi Arabia. The Saudis' strategic and economic interests lie clearly with the West, and they recognize that the damage done to industrial economies by rapidly escalating oil prices reflects on the solidarity of these interests. In addition, they have come to realize the potential impact that substitution and conservation could have on oil consumption, and they need to encourage continued use of oil in the decades to come.

As a result, the Saudis took the opportunity offered them by the halting of exports from Iran and Iraq last fall to increase their output. As demand has fallen in the succeeding months while the world economy slowed, they have maintained their output so as to engineer a world glut of several million barrels a day. It appears that they intend to maintain the current output level until the other OPEC nations agree to adopt their pricing strategy.

In our forecast, we have assumed that such a plan is adopted late this year and comes into being starting in 1982. As the Saudis envision the plan, prices in dollar terms adjusted for world inflation and economic growth would move upward gradually.

As mentioned above, the primary risk to this outlook is the potential for escalation of the conflict between Syria and Israel over Lebanon. We have assumed, perhaps somewhat optimistically, that the situation will not worsen appreciably. If it does, the outlook for oil prices could be much higher. Neither Syria nor Israel represents an important factor in the crude oil export market, but a conflict between the two would probably unite the Arab world against Israel and the United States. Oil prices would undoubtedly move higher as uncertainty regarding supply would rise. This result would be towards the optimistic end of the range of possible outcomes. A more pessimistic assessment would have to consider results up to and including additional Arab nations declaring war against Israel and a boycott of oil shipments to the United States.

Coal industry talks have moved forward. We continue to assume that the mines will reopen by July 1. This would make the strike roughly 100 days long — shorter than the second 119 days in 1977-1978 but a substantial strike nonetheless. It would result in a loss of real output during the second quarter of just under $4 billion at an annual rate, which represents about 1% of growth in the quarter. The strike is expected to have little effect in the economy outside of the coal industry itself. At the end of March, domestic coal inventories were estimated to be around 100 days of demand, and some observers estimate that the industry would feel no squeeze before late summer or early fall. ■

Detailed forecasts of the U.S. and world economies are available on a fee basis from Wharton EFA. Enquiries should be directed to: Business Manager, Wharton EFA, 3624 Market Street, Philadelphia, PA 19104.

Tax Policies For Growth And Competitiveness

By F. Gerard Adams

The Senate Finance Committee headed by Senator Robert Dole has been holding hearings on the president's proposal for a 10 percent personal income tax cut for each of the next three years (sometimes called the "10-10-10" plan) and the so-called "10-5-3" capital recovery program of accelerated depreciation. This article is adapted from testimony given by Professor Adams on May 14, 1981.

WIDESPREAD consensus about the inadequate performance of the United States economy during the 1970's has turned attention away from issues of business cycle stabilization toward longer-run concerns about endemic inflation and low productivity growth. But the policymaker must take into account the short-term implications of new policy strategies lest they impose inflationary or deflationary pressures on the economy which would thwart achievement of the long-run objectives. Even though the aims of the new tax policies may be long run, their short-term implication in terms of inflation, unemployment, and budget deficits must be considered. Moreover, tax policies must be seen in the context of the total policy scenario. The tax policy analysis must recognize the adjustments on the expenditure side and the posture of tight management of monetary aggregates being carried out by the Federal Reserve with the support of the administration.

I report here some simulations of alternative tax policy scenarios in the context of the Wharton Quarterly Model of the United States economy.

Econometric models, the Wharton Model among them, have been under considerable attack in recent months. Forecasting quarter-to-quarter movements of the economy during the past year has posed difficulties for econometric and non-econometric forecasters alike. But, as Stephen McNees of the Boston Federal Reserve has documented, the forecasting record of the models over a more meaningful time span of a year or so has been quite good. There have also been charges that the models lack a "supply side" – that they do not recognize the impact of money on the economy, and that they do not allow for expectations. There is little factual basis for such accusations. Over the years, the models have been vastly expanded and improved beyond the overly simple theoretical prototypes on which such accusations are based. The Wharton Model is completely open to public view. And anyone who cares to examine the equation structure of the model will see that it contains a supply side, that it has an elaborate treatment of the monetary sector – money does matter – and that it does take into account information on anticipations. Since the real world undergoes change, the model is updated and adjusted to take into account the current institutional structure and

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behavior of the economy. Large-scale econometric models, like the Wharton Model, remain the principal instrument for studying the macroeconomic impact of tax policy in a consistent, scientifically-based framework.

The base forecast of Wharton EFA (see Table 1) assumes that President Reagan's proposals now being considered by the Congress for the fiscal year 1982 are implemented. We have, however, assumed only a one-time 10 percent reduction in personal income taxes, effective in October 1981, and we have assumed that the tax rates established at that time will prevail into the future. The 10-5-3 capital recovery program has been introduced beginning in 1981, and it has significant impact on investment spending, particularly in later periods of the forecast horizon. We have assumed that the Reagan administration will be successful in limiting federal spending to somewhere near the targets proposed for fiscal 1982 but not in subsequent years.

The base forecast obtained is one of moderate real growth, ranging between 3 percent and 3.5 percent in 1982 and 1983. Inflation eases to some 8 percent from its recent peak, but not as much as has been projected by some of the more optimistic recent forecasts. Very troublesome elements are the continued large deficits, some $60 billion, and the high level of interest rates projected. Indeed, the model indicates that with constraint in the money supply to growth of M1B at 6 percent, interest rates will be approximately at the mid-1981 peaks again in the early part of 1982 as the economy responds to the tax cuts; they will then decline moderately during the remainder of the period through 1983.

Reagan's Program

In comparison to this base forecast, we have prepared an alternative which fully implements the three-year tax cut and spending cut features of President Reagan's program. The additional cuts in taxes are almost matched by additional reductions in expenditures. Whether or not this is a realistic calculation depends on whether it will be possible twice again to make cuts in expenditures which are comparable in magnitude to those being made in 1981. If such a balanced tax cut and expenditure cut program can be carried out, then the results for overall economic activity and inflation are close to those obtained in the base forecast. There is little evidence of a supply-side payout in terms of greater productivity or lower inflation, at least during the relatively short period considered here. The deficit remains close to the base forecast, and interest rates remain high. The risk, however, is that it will not be possible in the future to match the three-year tax cuts with corresponding reductions in expenditures.

The "Administration Program Without 1982-1983 Spending Cuts" calculation assumes the three-year 10 percent tax cuts and a pattern of expenditures comparable to our base forecast. This is, of course, a considerably more stimulative scenario with a still larger budget deficit.

The economy is held in check by the assumption that monetary policy continues to stick to the same aggregate monetary growth targets assumed in the "Administration Program" solution. The result is a slightly higher real growth rate for the economy, an average of 3.4 percent for 1983. This is a favorable development, particularly since it is accompanied by about the same inflation rate. But it has serious consequences for the deficit and for financial markets. The projected deficits run to $115 billion in 1983. The impact on financial markets is a still higher interest rate, running at 20 percent for the Treasury bill rate and at 17.2 percent for long-term rates in 1983. It is important to note, moreover, that these represent substantial real interest rates after adjustment for the inflationary expectations element in the long-term rate. The longer-run implications of such high deficits and interest rates on investment and economic growth merit serious concern. The impact on investment spending offsets incentives which are intended by the tax cuts. From the longer-term perspective of expanding and renewing the capital stock in order to improve productivity, this cannot be considered a favorable development.

These calculations suggest that an advance commitment to a tax cut in 1982 and 1983 would be very risky unless there is substantial certainty that further expenditure cuts will be made. This is difficult to assure, particularly since the cuts being made in 1982 are already proving very burdensome to the non-defense portion of the government budget. Of course, the situation of the economy in late 1982 could be different than we have projected, and at that point the issue of whether a

Table 1: Alternative Wharton Model Simulations

	Base Forecast			Administration Program			Administration Program Without 1982-1983 Spending Cuts		
	1981	1982	1983	1981	1982	1983	1981	1982	1983
GNP Current $, % change	12.2	12.2	11.7	12.2	12.3	11.6	12.2	12.3	12.1
GNP 1972 $, % change	2.7	3.1	3.5	2.7	3.0	3.2	2.7	3.1	3.4
GNP Deflator, % change	9.2	8.9	8.0	9.2	9.0	8.2	9.2	8.9	8.3
CPI, % change	10.4	9.7	8.6	10.4	9.8	8.9	10.4	9.8	9.4
Unemployment Rate (%)	7.4	7.3	7.2	7.4	7.3	7.2	7.4	7.3	7.1
Current Account Bal. (billions of $)	15.9	12.3	4.7	16.0	12.3	3.7	16.0	12.1	4.4
Money Supply (M1B), % change	8.0	6.4	5.9	8.0	5.8	5.1	8.0	5.8	5.1
Treasury Bill Rate (%)	13.6	14.6	12.9	13.6	14.8	13.3	13.6	17.5	20.0
Prime Loan Rate (%)	17.4	18.3	16.0	17.4	18.5	16.4	17.4	20.5	23.4
Long Term Bond Rate (%)	14.0	14.7	14.5	14.0	14.8	14.6	14.0	15.3	17.2
Federal Deficit (billions of $)	49.8	63.6	61.7	41.8	55.1	63.0	42.5	63.3	115.4

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further cut in personal income taxes is possible should be reexamined. This is an important advantage of delaying a decision on tax cuts for 1982 and 1983.

Do these forecast simulations allow adequately for the supply side? We believe that they do. There is, as I have noted, a supply side in the model. It represents the result of exhaustive research into the responses of individuals to changes in tax rates. It embodies what is known about the impact of taxes on investment and of investment on the production potentials of the economy. This work has typically shown that direct tax reductions to business such as the 10-5-3 proposal and investment tax credits have far more "bang for the buck" than do changes in personal income tax rates. The business tax cuts impact directly on the supply side. Personal income tax cuts are not without merit, particularly if one considers the so-called "bracket creep" effect of inflation on the typical consumer's marginal tax rate. But, at a time when growth and productivity are of primary concern, the emphasis clearly should be on a reduction of business taxes, which have a more clear and focused impact on capital investment by business.

Inflation Expectations

Do these simulations take sufficient account of the changes in inflationary expectations? Unfortunately, very little is known of how inflation expectations are formed and how they operate within the economy. There is much evidence to suggest that the inflation process is as much retrospective – wage and price increases occur because of past price increases – as it is anticipatory. In any case, the evidence from the calculation does not go far to support the thesis that inflationary expectations will quickly be brought down and that this will greatly ease inflationary pressures and lower interest rates.

In a nutshell, what does this calculation suggest for tax policy? As we have noted, taxes must be seen in the complete context of government spending, monetary policies, incomes policies, the international payments situation, etc. Without being explicit about these considerations here, I would propose the following priorities for tax reduction:

- Significant reductions in business taxes. These could take the form of accelerated capital recovery (though perhaps not all features of the 10-5-3 proposal), and additional investment tax credits. The latter might be targeted on industries which have been impacted by energy problems and environmental controls. They might be refundable or carry liberal carry-forward or carry-back provisions. Such measures are clearly more beneficial to business investment than would be general reduction in business profits tax rates or a cut in personal income tax rates.
- To provide additional saving, and to ease the plight of the savings and loan associations, it might be useful to expand tax-sheltered retirement or savings plans such as IRA.
- If the budget permits, cuts in the remaining excise taxes. Such cuts would reduce the inflation measures which enter into cost-of-living adjustment of wages.
- If the budget permits, adjustment for the high level of social security taxes – which would benefit both employees and employers.
- Finally, if the budget permits, adjustments in personal income taxes to wipe out inequities such as the marriage penalty and to lower high marginal rates. The latter adjustment might be combined with efforts to wipe out some of the more glaring tax loopholes which have made the effective tax rates on very high incomes considerably lower than the rates on the tax schedule. ■

F. Gerard Adams is professor of economics and finance at the University of Pennsylvania and senior consultant of Wharton Econometric Forecasting Associates. Jeffery Green and Allen Gutheim of Wharton EFA assisted with the calculations upon which this article is based.

OTHER economists on the hearing panel were Alan Greenspan of Townsend Greenspan Inc., David Meiselman of the University of Virginia, and Gary Ciminero of Merrill Lynch. Among the questioners were Senators Heinz, Packwood, Dole, Long, Byrd, and Danforth. Three of the economists were favorable to the Reagan 10-10-10 plan. Greenspan argued that the three income tax cuts would do little more than offset the "bracket creep" which would drive marginal rates higher during the next three years. He argued strongly in favor of indexing the income tax and indicated that whether we went to the 10-10-10 proposal or to a one-time cut followed by indexing really did not make much difference. He saw the principal problem as excess government expenditures and the tax cut as a way of keeping expenditures in check. Since the Reagan proposals do not appear so far to have reduced inflationary expectations, in Greenspan's view additional cuts, even into the so-called "safety net" expenditures, will be necessary. Meiselman took a strict monetarist position, supporting 10-10-10 but arguing that for it to work the Federal Reserve would have to do a better job of controlling the money supply.

Senator Heinz asked whether the reason for the continuation of inflationary expectations might not be the projected upsurge of defense expenditures which might, as in the past, cost more than expected, and which might cause sectoral bottlenecks. Senator Byrd urged reducing the 72 percent income tax bracket on unearned income to the 50 percent top rate on labor income and received significant support from several panel members. Responding to Senator Long's "Why, if we know that people respond to tax cuts, has it been impossible to provide empirical evidence of these responses?" there was disagreement about whether it is possible to evaluate empirically what the impact of tax cuts would be on work, savings, and investment. Greenspan felt that the difficulty of such calculations would make it impossible to establish the effects empirically. But others felt that there was a substantial body of statistical work. This work supports the significant effect of accelerated depreciation on business investment.

A question concerning a statement, the previous day, by Treasury Secretary Regan that deficits are not a major problem brought to light a curious reversal of opinions, with the more liberal members of the panel indicating that deficits were a matter of serious concern while the more conservative economists took the view that they were not a serious issue in the short run, particularly if there was control of the growth in the money supply. – F.G.A.

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Executive Compensation

The Wharton Magazine

Fall 1981
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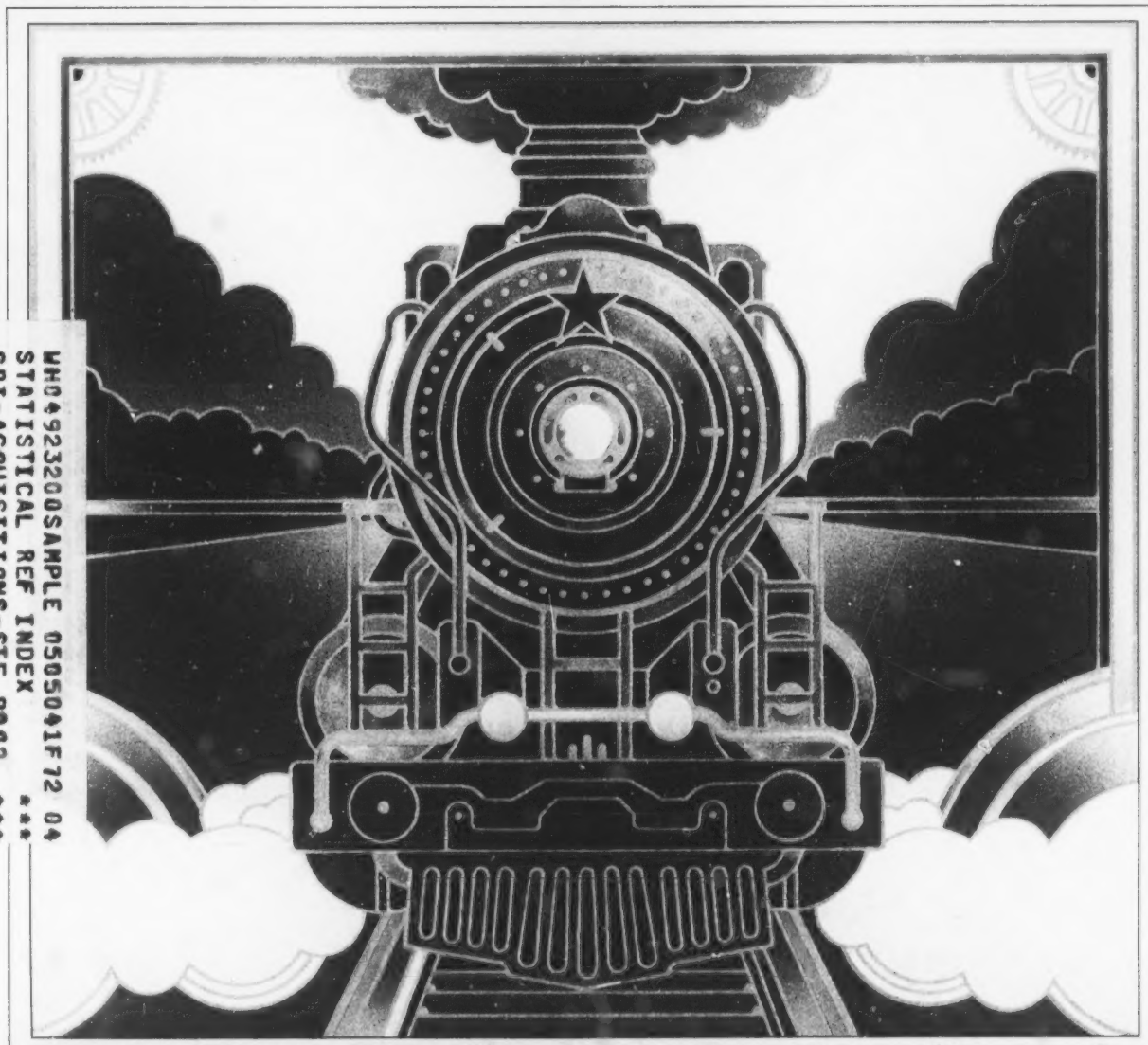

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CCC Number: 0145-4188/81 $2.00 $0.00
Manuscripts and art should be accompanied by stamped, self-addressed envelope and mailed to: Editor, *The Wharton Magazine*, 3609 Locust Walk, University of Pennsylvania, Philadelphia, PA 19104. (215) 243-8999.

Advertising: Jack Aldrich, Director of Advertising Sales, at same address. (215) 243-8999.
Advertising Representative: Rob Sennott, The Leadership Network, Suite 321, 230 Park Avenue, New York, NY 10017, (212) 682-4500. **Publisher's Representative:** *New England:* Joe Delone, Joe Delone and Associates, P.O. Box 271, 22 Welwyn Road, Riverside, CT 06878, (203) 637-2758.

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Subscriptions: $14 a year in the United States; $16 in Canada and Mexico; $24 (by air) in Europe and Latin America; $26 (by air) in Asia, Pacific, and Africa.
All subscription correspondence: The Wharton Magazine, Subscription Department, P.O. Box 581, Martinsville Center, Martinsville, NJ 08836. Printed by The Winchell Company, Philadelphia, PA 19107.
U.S.P.S. #432950. Second-class postage paid at Philadelphia, PA. Application for Audit Bureau of Circulations Membership has been made November 1980.

Fifth Annual Hay Report on

Executive Compensation

Erosion of management compensation continues, but the tax cuts offer modest help if inflation subsides. The new tax law introduces many positive changes.

This report on executive compensation is based on the Hay Compensation Comparison of more than 700,000 people in more than 1,000 U.S. companies. The Hay survey covers management positions from foreman to chief executive officer. Data from this survey are widely used by participants to establish pay practices and to manage their compensation programs.

Hay, an international management consulting organization with 80 offices in 25 countries, has conducted its Compensation Comparison since 1954.

This exclusive report, which appears in The Wharton Magazine *annually, covers executive compensation by 1) level of management, 2) industry, and 3) company performance. It also features a forecast of future compensation trends and developments. The report was prepared by Alvin O. Bellak, General Partner, and David J. McLaughlin, National Director of the Hay Strategic Compensation Services Group. Research and analysis was provided by Robin A. Ferraiolo of The Hay Compensation Information Center.*

FOR the third consecutive year, compensation in the industrial and financial sectors failed to keep pace with inflation. During the year ending May 1, 1981, base salaries in industrial companies rose an average of approximately 11 percent; in financial companies the increase was 10 percent. In comparison, the consumer price index for 1980 increased a record-setting 13.5 percent.

This situation was not unexpected.

Exhibit 1. Total Compensation Increases (%), 1979-1981

Total compensation increased by the largest percentages at the lowest levels of management in the Industrial sector and at the highest levels of management in the Financial sector.

INDUSTRIAL				FINANCIAL			
Title	1979	1980	1981	Title	1979	1980	1981
Chairman & CEO	10.2%	9.8%	5.1%	Chairman & CEO	—[1]	—	—
President & COO	11.6	10.7	6.7	President & COO	15.3%	11.2%	8.6%
Division General Manager ($500 million division)	12.1	10.9	7.4	Head of Commercial Banking Head of Retail Banking	17.3	9.9	12.2
Division General Manager ($150 million division)	10.5	10.3	8.8	Head of Trust	13.2	11.3	10.2
Corporate Controller General Manager, Manufacturing Director of Engineering	8.5	9.4	9.0	Controller	9.7	10.2	9.6
Plant Manager Regional Sales Manager Chief Auditor Senior Attorney	7.7	9.5	9.8	Area Manager Commercial Loan Officer (national accounts)	8.6	9.6	9.9
General Foreman Design Engineer Accounting Supervisor	7.7	8.7	10.5	Branch Manager (small branch) Mortgage Loan Officer Trust Account Administrator	8.2	7.9	9.2

[1] There are not enough positions at this level for a statistically significant response.

Exhibit 2. 1981 Total Cash Compensation

There are large salary differences at nearly all executive levels in comparing Industry and Finance—and also between the highest paying 10 percent and the lowest paying 10 percent of organizations within each sector.

INDUSTRIAL				FINANCIAL			
Title[1]	Highest 10%	Median	Lowest 10%	Title	Highest 10%	Median	Lowest 10%
Chairman & CEO	$555.2[2]	$417.4	$284.6	Chairman & CEO	$644.4	$430.1	$334.0
President & COO	450.0	343.0	230.5	President & COO	460.7	313.6	256.3
Division General Manager ($500 million division)	253.1	192.6	124.7	Head of Commercial Banking Head of Retail Banking	226.0	168.3	123.2
Division General Manager ($150 million division)	162.0	122.3	85.7	Head of Trust	144.5	109.7	86.7
Corporate Controller General Manager, Manufacturing Director of Engineering	92.6	72.9	57.9	Controller	79.9	63.2	52.0
Plant Manager Regional Sales Manager Chief Auditor Senior Attorney	61.5	49.8	42.6	Area Manager Commercial Loan Officer (national accounts)	53.5	42.1	36.7
General Foreman Design Engineer Accounting Supervisor	34.5	28.5	24.4	Branch Manager (small branch) Mortgage Loan Officer Trust Account Administrator	28.8	23.0	20.1

[1] For a full explanation of the evaluated title comparisons in the article see "How the Hay Job Unit System Works" on page 54.

[2] In thousands of dollars.

Historical trends indicate that compensation increases lag behind high inflation rates. Hay data for the past twenty years show that boosts in compensation will trail a CPI that increases more than 7 percent. Conversely, in survey years of relatively low inflation, like 1977 and 1978, compensation will rise faster than the inflation rate.

While percentage increases in base salaries during survey year '81 were fairly consistent at all job levels – approximately the 10-11 percent range in both the industrial and the financial sectors – total compensation, which includes annual incentives, varied considerably. Senior and top management in the industrial sector found themselves with total compensation increases of between 5 and 8 percent. At lower levels within industry, total compensation increases were much closer to raises in base salary – generally about 9-10 percent.

Incentive Payments Cut

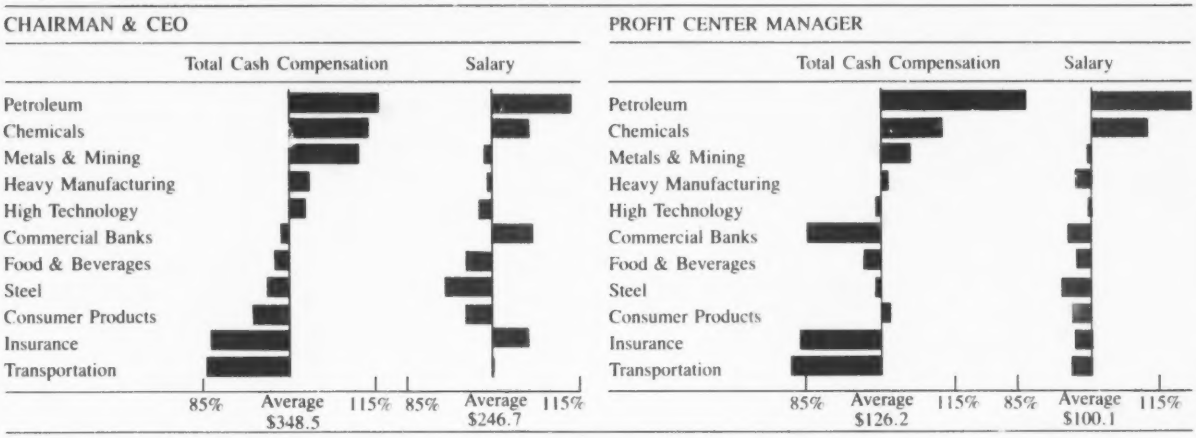
Total compensation hikes that are smaller than increases in base salary reflect the modest economic performance of most companies in 1980: Fortune 500 profits rose only 3.6 percent, compared to 27 percent the previous year. Naturally, in a slow growth year, those near the top who are accountable for the corporate bottom line normally see their incentive payments cut. In this survey year the reduction was dramatic, down almost 50 percent from last year, when total compensation for top management rose in the 10-12 percent range.

Because the financial sector does not emphasize incentive payments to the same extent as industrial companies (a phenomenon which is slowly changing), total compensation for senior management in these companies did not fall off quite so dramatically. Total compensation increases in the financial sector were between 8 and 12 percent. Nor, as Exhibit 1 indicates, did the financial sector show a pattern of total compensation increases that became smaller and smaller at higher job levels. In the face of declining profits, total compensation for financial institutions increased solidly. The Fortune 50 list of largest banks, insurance companies, and diversified financial institutions showed increased earnings of only 6 percent for banks and 12 percent for the insurance group; earnings actually declined 8 percent for diversified financial institutions.

Exhibit 2 shows the total cash compen-

Exhibit 3. Total Cash Compensation Compared by Sectors

Companies are ranked by compensation as a percent of the average for all sectors.



sation levels for various "typical" management jobs within industry and finance – from general foreman or bank branch manager up to chief operating officer or chairman and chief executive officer. (See box on page 54 for an explanation of how these positions were selected.) At the very highest "comparable" job level, compensation is greater in the financial sector. For most other top management positions, as well as in first-line management jobs, industrial companies offer greater total compensation.

But as the figures for the "highest 10 percent" and "lowest 10 percent" indicate, compensation for comparable jobs varies considerably – especially at upper management levels. This, of course, depends on the particular type of industry or financial institution being examined.

Exhibit 3 shows that some industries, such as petroleum, tend to compensate their management on a much higher scale. On the other hand, compensation for managers in industries like transportation and food and beverages tends to be lower.

Although compensation may generally be greater in certain industries, it also varies by job level within these specific industries. Consumer products companies, for instance, offer relatively low pay at the level of chief executive officer or chairman, but compensate profit center managers above the total industry-wide average. In contrast, the petroleum, chemicals, and metals and mining industries reward both levels with total compensation that is well above average.

Less Salary, More Incentives

The higher paying sectors tend to give larger percentages of total cash compensation in the form of performance incentives – averaging more than 50 percent of base salary on the topmost level and 30 percent of base salary at the profit center manager level. Thus, a metals-mining CEO or profit center manager can have a base salary that actually falls below the survey average for industrials, but still come away with above-average total cash compensation.

Lower-paying companies generally reward top management with incentives that represent about 30 percent of base; profit center managers received incentives of 20 percent. Insurance and transportation companies, whose incentives this year were the lowest "percentage of base" of any two groups in the survey, rank at the very bottom of the 1981 total compensation scale. The lower incentives reflect a combination of factors: performance swing, the profit economics of these businesses, and more conservative historic compensation practices.

Most industrial organizations have some type of incentive plan for executives, including an annual incentive award or a

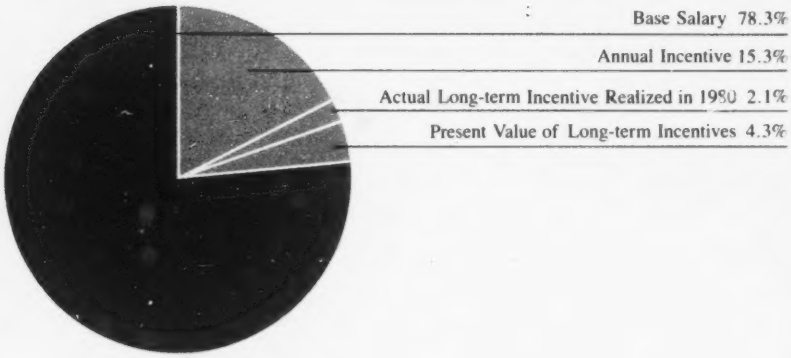
Exhibit 4. Trends in Long-Term Incentives

A large percentage of 112 industrial companies with sales exceeding $1 billion have at least some kind of long-term incentive plan.

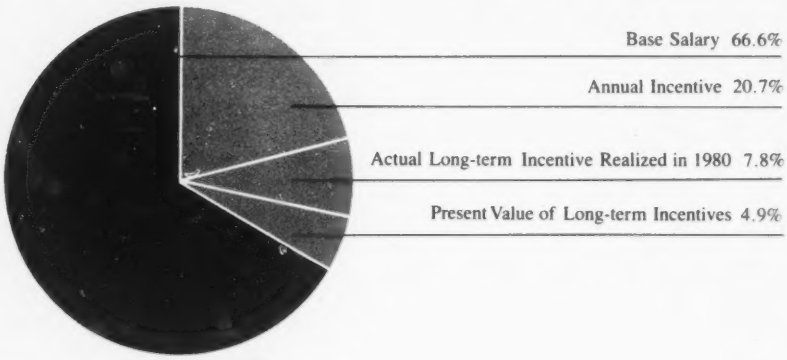
Type of Plan	1979	1980	1981
Stock Options	85%	87%	78%
Stock Appreciation Rights	51	60	60
Performance Unit	13	22	21
Restricted Stock	5	11	13
Performance Share	9	9	10
Long-Term Cash	6	7	7
Phantom Stock	2	5	5

Exhibit 5. 1981 Total Compensation

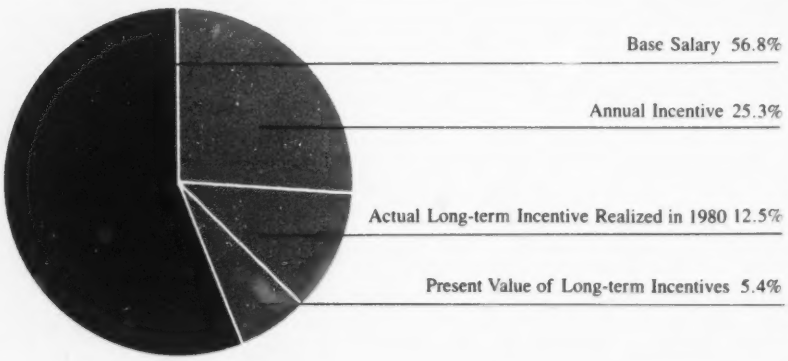
CONTROLLER **$84,400**


Base Salary 78.3%
Annual Incentive 15.3%
Actual Long-term Incentive Realized in 1980 2.1%
Present Value of Long-term Incentives 4.3%

PROFIT CENTER MANAGER **$154,200**


Base Salary 66.6%
Annual Incentive 20.7%
Actual Long-term Incentive Realized in 1980 7.8%
Present Value of Long-term Incentives 4.9%

CHAIRMAN & CEO **$502,800**


Base Salary 56.8%
Annual Incentive 25.3%
Actual Long-term Incentive Realized in 1980 12.5%
Present Value of Long-term Incentives 5.4%

long-term incentive program. Data from the 1981 survey indicate that 76 percent of all industrials have an annual incentive plan or bonus plan. If transportation and utility companies – most of which do not have variable cash compensation – are excluded, this figure rises to 84 percent.

In financial institutions, profit sharing historically has been used to give employees, including management, extra compensation in profitable years. But during the last ten years, annual incentive plans have become increasingly prevalent. This year, more than half (52 percent) of all financial organizations in the survey have an annual incentive or an annual incentive combined with a profit sharing plan. Only 15 percent continued to rely exclusively on profit sharing. Still, however, fully one-third of the financials had no extra compensation program – either in the form of an annual cash award or a profit sharing plan.

Rewarding the Long-Term

In the past, most incentives have been designed to reward short-term performance; characteristically they are yearly. But as U.S. productivity stalls, more and more corporations have been restructuring their compensation packages to include an incentive that promotes sustained longer-term performance and encourages more far-reaching executive decisions.

Long-term incentives are used to reinforce the strategic direction of the enterprise; align executive and shareholder interests (through a stock component); reduce executive motivation to "manufacture" short-term profits; and help take advantage of market movements and capital gains.

Exhibit 4 shows the prevalence of various major types of long-term plans among 105 industrial companies with sales of $1 billion or more. Although stock options still are the most frequently used plan, they increasingly are supplemented with stock appreciation rights, particularly in these large companies.

As Exhibit 4 shows, other forms of long-term incentives that do not depend

Corporations have been restructuring their compensation packages to promote long-term performance.

solely on market price appreciation are now widely used in these larger "pacesetter" companies; these, however, rarely operate as the sole executive incentive. Performance units (long-term awards that are typically earned over three to four years and are based on company performance measured against earnings per share growth or other goals) have emerged as an effective tool to reinforce both strategy and performance.

Recent legislation (the Economic Recovery Tax Act of 1981) provides for a new type of long-term plan: "incentive stock options." This is a significant development that reintroduces a form of option (like the old qualified and restricted stock options) that will receive favorable tax treatment. Under this plan, when an incentive stock option is granted or when the option is exercised, there is no tax consequence. Further, the recipient will be taxed at capital gains rates (the law also lowered the maximum capital gains tax) when the stock received on exercise of the option is sold. We anticipate that these "incentive stock options" will be quite popular. However, we forecast a continued use of multiple plans – particularly combination programs consisting of incentive stock options, "nonqualified" stock options, and some form of performance units. These other forms of long-term incentives – although they do not qualify for capital gains tax treatment – continue to have distinct advantages and uses in an effective total executive compensation program. Of equal significance are the individual award limits required in the new incentive stock option plans – limits that will almost preclude use of these plans as the sole long-term incentive for senior executives. Under this limit, no more than $100,000 of stock can be granted to an individual executive during any calendar year; however, the rules do permit half of any unused limit to be carried forward for a maximum of three years.

What is the real value of these long-term incentives? Historically – because of differences in the types of plans, the impact of future events on awards that are still not exercisable or vested, and differences in the timing of awards and ultimate payout – this value has been difficult to measure across company and industry lines. Hay, however, has developed techniques for this type of measurement (using a present value-performance projection-stock price model); our management surveys increasingly include an analysis and valuation of these long-term awards. The purpose is not only to measure the amount realized in a given year (through exercise of an option or payout of a portion of a multiyear award, for instance) but also to forecast the present value of awards that are still contingent. Our 1981 management surveys indicate that these amounts can be significant at the management level, amounting to 20-25 percent of the total compensation paid.

Exhibit 5 shows the breakdown of total compensation into base salary, annual incentive, and long-term incentive for three levels of management in 105 industrial organizations. The long-term incentive is depicted at both the actual value realized in 1980 and the present value of the projected payoff from 1980 awards. Whereas base salary constitutes more than 78 percent of a controller's total compensation, this component comes down to 56 percent at the chairman and CEO level. Higher levels of management receive a larger percentage of their total compensation in the form of annual incentives and long-term incentives. The chairman and CEO receives long-term incentives

How the Hay Job Unit System Works

The job evaluation system underlying the data in this article measures job content rather than job titles or the individuals holding specific jobs. Each job in a company is assigned a value in "units" of job content. The total units indicate the relative weight of each job.

The evaluation method analyzes three critical elements which are present in all jobs, though obviously in varying degrees, from mailroom clerk to chief executive officer:

1. *Know-How* **– The sum total of every kind of knowledge and skill, however acquired, needed for satisfactory job performance.**

2. *Problem Solving* **– The intensity of the mental process required to identify, define, and resolve a problem. This covers the amount of original, self-starting thinking necessary for analyzing, creating, reasoning, and arriving at conclusions.**

3. *Accountability* **– The measured effect of the specific job on end results. This element is most important at managerial levels. It has three interrelated dimensions: the job's freedom to act; the magnitude of the end results; and the job's impact on these results – that is, has it got a primary impact, is the impact shared with others, or is it a staff advisory impact?**

These three elements are combined to determine the total weight of the job in units of job content. The units, ranging from about 150 units for entry-level professional and supervisory positions to 1000 or more units for senior management jobs, show the relative weight that a company places on each management position. The salary structure of a company is the amount of dollars it pays for a unit of job content.

Since many companies use this specific process for determining job content and establishing compensation equity, we can compare their salary structures and measure the "going price" in the marketplace for any job content level.

For this report, model industrial and financial organizations are used to illustrate how familiar titles frequently fall around a number, although titles are not what's evaluated in the Hay System. The matches of these titles and company dimensions with assigned point values are approximate.

almost three times that of the controller (17.9 percent compared to 6.4 percent).

WHAT are the major compensation issues that are likely to emerge over the next year? Certainly the ripple effect of the new tax legislation presages a fundamental rethinking of executive compensation programs, particularly in the area of long-term incentives. Reductions in the tax rates and the capital gains maximum will change the trade-off calculations needed in the design and use of deferred compensation. As already mentioned, the introduction of the incentive stock option adds a new incentive vehicle to the range of long-term alternatives – one that is more complex than it appears at first glance. Although a considerable amount of rethinking will be necessary, we forecast continued use of multiple plans and an increasing focus on total executive compensation planning. Increasingly this will demand an approach from an overall business and strategic perspective – not only to reinforce short- and long-term performance, but also to integrate compensation with other management systems.

Cash compensation trends in 1982 and beyond may also be influenced by the new tax law and the outcome of President Reagan's overall economic program. Certainly one objective of the tax package was to stimulate investment and address the erosion of real income caused by inflation and "tax bracket creep." The new law reduces individual income tax liabilities in four stages. By 1984 there will be total across-the-board reductions of about 23 percent below current rates. Individual income tax withholding will also be reduced in stages: 5 percent on October 1, 1981; 10 percent on July 1, 1982; and another 10 percent on July 1, 1983. Starting in 1985, the income tax brackets, the zero bracket amount, and personal exemptions will be "indexed" – adjusted for inflation as measured by the consumer price index. When the final

Representative Positions at Various Job Unit Levels

	INDUSTRIAL		FINANCIAL	
	Light Manufacturing Company		Full-Service Commercial Bank	
Job Units	Medium—$300 Million Sales about 8,000 employees	Large—$1.4 Billion Sales about 20,000 employees	Regional—$2-5 Billion Assets $300-500 Million Operating Income 2000-4000 employees at least 100 branches	Large—$15-30 Billion Assets $1.25-2 Billion Operating Income; about 24,000 employees 100-500 branches
3000		Chairman & CEO		Chairman & CEO
2500		President & COO		President & COO
2000	Chairman & CEO		Chairman & CEO	
1500	President & COO	Division General Manager ($500 million division)	President & COO	Head of Commercial Banking Head of Retail Banking
1000	Division General Manager V.P. Manufacturing V.P. Finance V.P. Marketing	Division General Manager ($150 million division)	Head of Commercial Banking Head of Retail Banking	Head of Trust
600	Corporate Controller	General Manager Manufacturing Director of Engineering	Controller Head of Mortgage Lending Manager Branch Administration	Controller
400	Plant Manager Regional Sales Manager Chief Auditor Senior Attorney	Plant Manager Regional Sales Manager Chief Auditor Senior Attorney	Area Manager Commercial Loan Officer (national accounts)	Area Manager Commercial Loan Officer (national accounts)
200	General Foreman Design Engineer Accounting Supervisor	General Foreman Design Engineer Accounting Supervisor	Branch Manager Mortgage Loan Officer Trust Account Administrator	Branch Manager Mortgage Loan Officer Trust Account Administrator

In a slow growth year, those near the top see their incentive payments cut.

Exhibit 6. Compensation and Buying Power

		1981	1982	1983	1984
Chairman & CEO	Compensation	$417,400	$446,400	$477,900	$511,300
	Tax (rate)	154,278 (36.9%)	163,549 (36.6%)	172,752 (36.1%)	172,850 (33.8%)
	Buying Power	106,527	105,071	104,004	105,832
	Inflation	156,595	177,780	201,144	232,618
	Buying Power % of 1981	100%	99%	98%	99%
Profit Center Manager	Compensation	122,300	130,900	140,000	149,800
	Tax (rate)	39,528 (32.3%)	40,799 (31.2%)	41,102 (29.4%)	42,900 (28.6%)
	Buying Power	33,511	33,469	33,708	33,427
	Inflation	49,261	56,631	65,190	73,473
	Buying Power % of 1981	100%	99%	100%	99%
Controller	Compensation	72,900	78,000	83,500	89,300
	Tax (rate)	19,286 (26.5%)	19,390 (24.9%)	19,447 (23.3%)	20,460 (22.9%)
	Buying Power	21,706	21,772	21,831	21,526
	Inflation	31,908	36,838	42,222	47,314
	Buying Power % of 1981	100%	100%	100%	99%

reductions become effective, individual tax rates on a joint return will range from 11 percent on taxable income in excess of $3,400 to 50 percent on taxable income in excess of $162,400. (The comparable figures for a single return are 11 percent at $2,300 and 50 percent at $81,800.)

To test the impact of these reductions, we used the new tax schedules to project compensation buying power (gross compensation less taxes and inflation) for three representative positions. We set 1981 as a base, using this year's survey compensation findings and current actual inflation rates. Conservatively assuming a 7 percent compound increase in total cash compensation and an average of 9 percent inflation from 1982 to 1984, this forecast indicates that the new tax rates will, at best, only maintain real income levels and forestall further erosion for the average executive.

Of course, the individual who enjoys more rapid compensation growth during this period – either because of superior company performance and higher bonuses or because of individual promotion – will achieve real income growth. The individual who enjoys cash compensation growth of 14 percent – double the assumed 7 percent rate – will do very well. For instance, if the compensation of the profit center manager shown in Exhibit 6 were to increase at 14 percent per year, by 1984 his actual income would increase 48 percent; his real income would increase 17 percent.

A key question in these projections is: How realistic are the assumptions of a 9 percent inflation rate and a 7 percent compensation increase rate? The Wharton Econometric Forecasting Associates are forecasting growth in the consumer price index of 9.15 percent in 1982 and 8.3 percent in 1983, making 9 percent a logical average projection. Hay historical data suggest compensation increases that trail this CPI rate by one or two percentage points. Thus, a 7 percent increase in compensation, given the 9 percent increase in the consumer price index, is likely.

The Impact of Inflation

To illustrate the impact of this critical assumption (again using the profit center manager receiving 7 percent annual increases as an example), if inflation is only 7 percent, his or her compensation buying power will increase through 1984 by 5 percent. Even though the 7 percent pay increase just matches cost increases, the tax cut gives the executive a modest boost in buying power. If inflation averages 12 percent during this period, real income will decline by 8 percent and the intended effect of the tax cuts will be lost.

It seems clear that managing cash compensation will continue to be a troublesome and difficult job over the next few years. As our surveys already reveal, companies will be forced to do a better job of focusing on top performers and critical functions, because most organizations will not be able to keep everyone "whole." In the short run, the new tax rates do not appear to offer significant relief, particularly when social security and other mandatory costs are considered. This problem will be particularly acute at the middle-management levels, where there still will be bracket creep until indexing takes effect in 1985. We predict further pressure on middle-management compensation levels, with a subsequent reexamination of the need for incentive plans and other forms of "variable" cash compensation for this group. At the upper levels, incentive bonus plans will continue to proliferate. We forecast significant growth in the financial sector and increases in the bonus opportunity in many companies and industries. At the same time we see a need for increasingly effective means for measuring performance on the corporate, unit, and individual levels. We predict this will be one of the central compensation planning considerations in the 1980's. ■

The Wharton Magazine Economic Newsletter

Econometric Forecast

For the United States, 1981.3—1984.2

Prepared by
Lawrence R. Klein, Allen Gutheim, Edward A. Friedman, Stephen Able,
Edward Hill, Wayne Tarken, Ellis Tallman, and Glenn Currier
Wharton Econometric Forecasting Associates

Budget Gap To Grow; Oil Prices Flat

We expect little or no real growth in the economy until the personal tax cut becomes effective on October 1, 1981. Additional personal tax cuts on July 1 of next year and the year after will help ensure slowly accelerating rates of growth as interest rates peak and as inflation eases. The economy in 1983 may be considerably improved, but the path there is not straight. Indeed, it is not even obvious.

The failure of the OPEC ministers to agree on new price adjustments and Nigeria's subsequent price reduction underscore the excess supply overhanging the world petroleum markets. We anticipate prices will remain flat through year-end, and expect relatively moderate increases thereafter. It is even possible that eighteen months could elapse before market conditions will allow any significant world petroleum price increases.

Our current problems seem to be emerging here at home; or, more specifically, in Washington. When President Reagan proposed his tax and spending programs early this year, there seemed little chance that Congress would give him what he wanted. Suddenly, we have the complete package in our laps, and the blemishes are beginning to look larger and larger. In a nutshell, the problem facing economic policymakers is to combine an expansionary fiscal policy with a restrictive monetary climate while maintaining control of the federal deficit.

We do not expect that the resolution of these problems will be completely successful. We believe that monetary policy will remain tight under a Federal Reserve which appears to have the full support of the administration. This will continue to restrict growth in the interest-sensitive sectors of the economy and hold down federal revenue growth, which suffers from the tax cuts to begin with. Thus, we anticipate that defense spending, along with activity in the non-interest dependent sectors, will continue to be the main source of growth during the coming eighteen months, but that the government deficit will run far above the levels expected by the Reagan administration.

Such a scenario is not set in stone, but to avoid it will probably require policy redefinitions. The deficit could be controlled by further reductions in spending or by increases in taxes.

In past forecasts we have explored the impacts of a large hike in the federal gasoline tax – a crude oil imports fee could accomplish the same end. The administration is currently looking at the possibility for decontrol of natural gas prices, and there could well be a windfall profits tax associated with such a move.

On the expenditure side, slower growth in defense spending is one alternative currently under review by the administration. In nondefense areas, additional cuts will be more difficult. Current plans call for fairly drastic cuts in transfers, grants, and nondefense purchases. Perhaps the most likely area remaining is social security, which is in trouble on its own.

Finally, one further way to reduce federal spending is to lower interest rates by implementing a more expansionary monetary policy.

The consumer continues to be a plus factor in the economy. Consumption of real nondurable goods and services is forecast to increase in the 2.5% to 3.0% range throughout the forecast. Only the durables sector is sub par, and this is due to weak auto demand in the first instance and a reduced demand for household furnishings in the second. As interest rates move downward later next year and in 1983, we expect recovery in both of these consumption areas. For the remainder of the consumption sector, the large personal tax cuts during the coming 24 months should ensure the level of activity we expect.

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Consumption

The path of consumption expenditures remains basically unchanged from our previous forecast. However, due to our less optimistic forecast for real disposable income later in the forecast period, we expect expenditures will expand at a more conservative rate for 1982 and 1983. The saving rate will improve, though, at about the same pace we forecast previously, averaging around 6% through 1983 following a dip to 5.2% in the third quarter of this year.

The first installment of the personal tax cut is scheduled to take effect at the start of the fourth quarter, providing a

boost to disposable income. Thereafter, a pattern of slow growth is followed by a sharp jump in the third quarter of the two succeeding years. This growth pattern results from the combination in July of 1982 and 1983 of both the tax cuts and the social security annual inflation adjustments.

Auto sales are responsible for most of the current strength in the durable goods category. Virtually every car manufacturer has some incentive program in operation, trying to trim inventories of old model cars before the new model year begins.

We forecast that sales will reach a 9 million unit annual rate during the third quarter, which is a sharp jump from the 7.8 million unit annual rate in the second quarter. However, history indicates that the consumption spurred by these discounting mechanisms will be borrowed from the fourth quarter, just as the unit sales strength during the first quarter of this year undoubtedly detracted from second quarter sales.

We expect that growth in the auto sector will remain slack through most of 1982, continuing to reflect the high cost of financing, with some improvement occurring in 1983 as inflation and interest rates begin to abate.

Growth in furnishings and household durables consumption is also being restrained by finance costs, since very few new homes are being furnished and installment credit costs are reducing replacement sales.

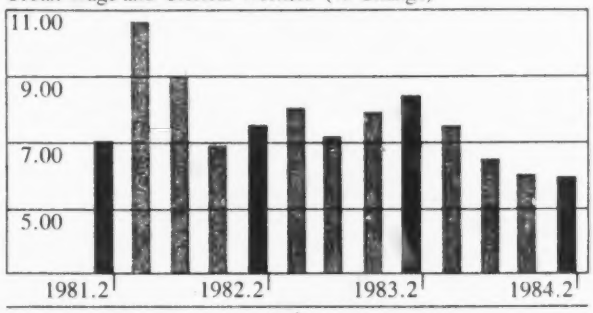
The path for durable consumption goods, after the dip in the fourth quarter due to depressed auto sales, is expected to move upwards at a gradually increasing rate, with real durable consumption increasing by 7.5% by 1983.

Nondurable expenditures growth in the near term is due almost entirely to food, clothing, and shoe consumption. Real clothing and shoe consumption exhibit the strongest and most consistent growth pattern through 1983, with an 8% growth rate for 1981, 5% for 1982, and 5.6% for 1983. Consumption of gasoline and oil will increase negligibly in the third quarter before falling again in the fourth quarter, while fuel oil and coal consumption are expected to continue falling at sharp rates for the remainder of the year. We believe consumption of gasoline and oil will continue to decline through 1983 while fuel oil and coal consumption should exhibit growth during 1982 before declining again in 1983. Real expenditures on food will continue to grow through 1982 and 1983 at about 3%, despite the tendency of food prices to be a leading cause of inflation.

Consumption of services exhibits much the same pattern as real disposable income; slack growth until the third quarters of both 1982 and 1983. The apparent cause of this pattern is again the combination of the tax cut and social security adjustment. The volatility appears in the "other" services category, which includes health care. As transfers, including medical benefits, are cut, the consumption of health services will become more dependent on the private sector and thus income. Consumption of services is expected to average 2.5% growth through 1983.

Consumer Price Index

Urban Wage and Clerical Workers (% Change)



Investment

Housing

With prices for new and existing homes rising more slowly than any of the conventional measures of inflation, it appears that home owners have temporarily lost their hedge against inflation. We wish to stress that it is our expectation that this is only a temporary phenomenon due to the record levels of mortgage rates. An examination of the demographic composition of the U.S. population leads us to conclude that there is currently a large group of relatively young potential home buyers who are waiting for mortgage rates to fall before they enter the housing market. Once mortgage rates have returned to levels closer to their historical averages, the increased demand for home ownership should exert sufficient upward pressure on prices to create another extended period of real appreciation in home values.

Given the prospect of a modest decline in mortgage rates during the fourth quarter due to the impact of the All Savers Certificates and a slight improvement in deposit flows at thrift institutions, we expect a modest increase in housing starts to occur soon. Further, we expect a housing recovery to grow slowly but smoothly over the next three years. We believe the third quarter will turn out to be the cyclical trough, with total private housing starts at an annual rate of 1.03 million units. Our forecast for a fourth quarter rate of 1.09 million units brings us to a yearly figure of 1.17 million units. As interest rates continue to fall in 1982, we expect a further

Forecast: The Next Two Years

Selected Major Economic Indicators — August 31, 1981

Item	1981.3	1981.4	1982.1	1982.2	1982.3	1982.4	1983.1	1983.2
Gross National Product $	2936.40	3020.10	3113.40	3199.50	3302.50	3395.80	3499.40	3580.10
% change	7.83	11.90	12.94	11.53	13.52	11.78	12.77	9.55
Real Gross National Product $ (1972)	1508.30	1520.20	1536.50	1546.50	1563.50	1573.90	1590.90	1600.00
% change	0.25	3.18	4.36	2.63	4.49	2.68	4.38	2.31
Implicit Price Deflator — GNP	194.70	198.70	202.60	206.90	211.20	215.80	220.00	223.80
% change	7.55	8.45	8.22	8.67	8.64	8.86	8.03	7.08
Unemployment Rate %	7.29	7.56	7.68	7.68	7.65	7.59	7.49	7.44

[$ amounts in billions. All $ figures are current dollars except those marked $(1972)]

increase of 171,000 units to reach a level of 1.34 million units. Because we do not expect anything approaching a rapid recovery in the housing industry, it may be the middle of 1984 before we return to a rate of 2 million units for total housing starts.

Nonresidential Investment

Real nonresidential investment declined less substantially in the second quarter of 1981 than had previously been estimated, according to the revised GNP data recently released. Our forecast is for significant growth in real nonresidential investment throughout the forecast period. Performance in the nonresidential investment sector should be stimulated as a result of the decrease in tax lives (increased depreciation rates) passed by Congress. Also, capacity utilization is forecast to grow, putting pressure on existing capacity and spurring new investment in equipment. Later in the forecast period, interest rates should moderate, lowering the cost of capital expenditure financing and leading to an upturn in investment in structures.

Equipment and structures investment exhibited contrasting patterns for the second quarter of 1981, and the performance in both components should continue to differ throughout the forecast period.

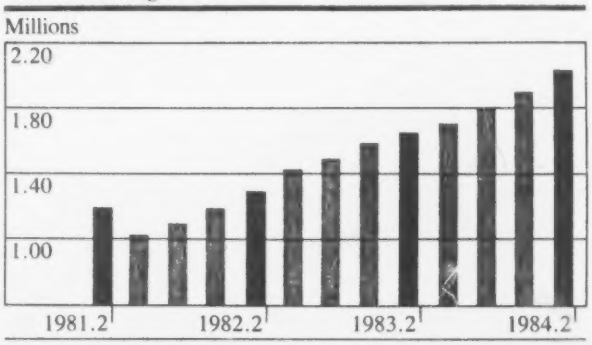
We forecast investment in equipment to recover from the negative growth of the second quarter and maintain consistent growth over the entire forecast period. Real investment in equipment should grow 2.2% and 5.3% for the years 1981 and 1982, respectively. Strong performance of equipment investment during the forecast period is expected as a result of the revisions in tax lives as well as the fact that the cost of equipment should not require substantial external financing. In addition, the price of equipment has increased at a substantially lower rate than that of structures, which makes equipment the more attractive investment under current economic circumstances.

In sharp contrast, real investment in structures exhibited positive growth of 4.9% in the second quarter of 1981, but in subsequent quarters is expected to suffer negative growth as a result of stifling finance costs. We do not foresee a recovery for real investment in structures until interest rates moderate late in the forecast period.

We expect a long period of negative growth in real investment in agriculture, with negative growth rates of 1.8% for 1981 and 3.8% for 1982. We forecast the costs of agriculture to grow more rapidly than the prices received by farmers, which will therefore reduce the profitability of investment, especially in light of the present high interest rates.

Real investment in manufacturing declined 22.9% in the second quarter. However, we expect growth in manufacturing investment to recover strongly throughout the forecast period. We forecast real investment in mining to exhibit strong positive growth throughout the period, as energy costs remain stable and as exploration and production returns continue to make such investment profitable.

Private Housing Starts



Inventory accumulation should remain moderate throughout the forecast period. High interest rates make the cost of holding inventories high, and therefore undesirable. We expect high interest rates to persist for most of the period and, as a result, constrain the growth in inventories.

Financial

The Federal Reserve has had no problem meeting this year's third quarter M1-B growth target, and as a result is easing up slightly via increased open market purchases. We forecast that the slight easing of monetary policy over the next couple of months will bring down interest rates to a trough 100 to 200 basis points below current levels.

On a quarterly average basis this is obscured in our forecast – rates on average will have been higher in the third quarter than in the second. Moreover, our overall outlook remains unchanged: The pickup in real GNP growth generated by the tax cut in the fourth quarter should serve to prevent a recession, to boost private credit demands, and therefore to raise interest rates. For example, the fourth quarter average for the prime rate is expected to be above 20%. Rates should peak sometime in the winter of 1982 and then begin to trend downward along with gradual easing of inflation.

The two factors which are usually responsible for lower interest rates – namely recession or significant monetary easing – are absent from our outlook. On the one hand, the repeated tax cuts should stimulate moderate growth over our entire forecast, and on the other hand, Chairman Volcker of the Fed has once again gone on record stating that the Board of Governors will continue to keep credit conditions tight.

If easy money and recession are ruled out as contributors to declining interest rates in 1982, the task falls to three factors which are less well documented.

First, if inflation comes in much lower than our forecast (enough so that M1-B velocity falls), then the existing pattern of credit growth could finance credit demands even as rates declined. For this factor alone to be the source of lower interest rates, inflation would be required to drop by roughly five percentage points immediately.

Second, if expectations of inflation drop substantially, then investors are likely to move back into the fixed-interest bond markets and therefore to buoy bond prices.

Finally, we feel that the current bout of high interest rates is having another shock effect on business and espe-

1980	1981	1982	1983
2626.10	2922.80	3252.80	3640.00
8.79	11.30	11.29	11.90
1480.70	1513.10	1555.10	1613.30
−.16	2.19	2.78	3.74
177.40	193.20	209.10	225.60
8.98	8.90	8.26	7.87
7.15	7.39	7.65	7.35

cially on consumer cash management, which should permanently lower the demand for money relative to high-interest bearing assets. Such occurrences happened in the period 1974-1975 and in 1979. Consumers hold at least 60% of M1-B, which implies a national average of at least $3,000 in cash, checking, or NOW accounts per household. This implies that there clearly is room for improved efficiency. This in turn would raise the demand for high-interest assets, which would push up their prices and lower their rates of return.

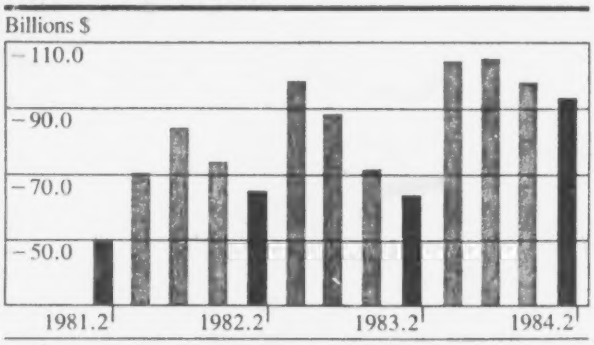
Government

Despite overwhelming congressional support for the Reagan budgetary initiatives, all is not quiet on the fiscal front. Projections of deficits for fiscal 1982 in excess of those projected by the administration in the Mid-Session Review have already led to discussions of the possibility of further budget cuts in the coming year. More importantly, the administration budget includes nearly $30 billion in fiscal 1983 (and another $44 billion in fiscal 1984) of unspecified savings above the specific cuts already included in the budget. Such savings will require either deep cuts in spending areas such as defense, welfare, social insurance, or aid to the states, or some form of increased taxation. None of these options appears politically attractive, so whatever approach is decided upon by the administration, it is likely to generate a great deal of congressional opposition.

We assume that there will be no further budget cuts in fiscal 1982, but that the further cuts of the size proposed by the administration for 1983 and 1984 will be achieved. Given the political difficulties which are likely to be encountered during this second round of massive budget cuts, the composition of the resulting expenditure reductions can presently only be guessed at.

Discussions are currently under way in Washington concerning the possibility of scaling down the proposed levels of defense spending over the 1982 to 1985 period. However, until such talks produce concrete indications that the administration is revising downward its oft-stated goal of 7% real increases in defense spending over the next few years, we do not feel it is appropriate to rely on the defense area to contribute substantially to the proposed budget savings. Neither does it seem appropriate to project an increase in taxes so close on the heels of the administration's success in obtaining passage of its massive tax reduction legislation. Instead, the prescribed spending reductions are assumed to be apportioned more or less evenly across the nondefense purchases, transfers to persons, and grants-in-aid categories of federal spending, thereby continuing trends begun in the 1982 budget.

Federal Government Deficit



The spending figures which result from the budget cutting exercise are noteworthy. After rising by 7.3% nominally in fiscal 1982, nondefense purchases decline by 7.5% in fiscal 1983. The growth in transfers to persons slows from 8.9% in fiscal 1982 to 3.4% in 1983, while the decline in grants-in-aid accelerates from -4.7% in fiscal 1982 to -9.2% in fiscal 1983.

Federal purchases as a whole, less defense spending and net interest, are thus projected to decline slightly in 1983 after growing by only about 5% in 1982. Growth in overall federal expenditures is held up by a 17% annual rate of increase in defense spending over the 1982-1983 period, and by increases in the amount of net interest paid by the government, from nearly $67 billion in fiscal 1981 to almost $84 billion in 1982 and $102 billion in 1983.

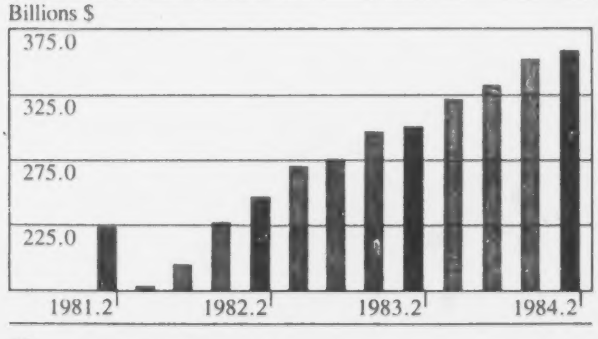
Tax policy over the forecast period is dominated by across-the-board cuts in personal tax rates and liberalized depreciation allowances for corporations. Because of these tax cuts, the growth in federal revenues falls from 7.2% in 1982 to 6.4% in 1983. With growth in overall federal spending averaging approximately 8% per year over this period (primarily because of the growth in defense spending and interest payments), the federal deficit is projected to grow from almost $60 billion in fiscal 1982 to more than $80 billion in both 1982 and 1983.

Foreign Trade

As the dollar continues to be strong month after month, the point has to come at which exports are restrained and imports are encouraged to such an extent that the trade balance begins to suffer. On merchandise balance alone a larger deficit persists. The strong dollar should eventually make that deficit worse. Counterbalancing the deficit, we have a significant services surplus. That too is vulnerable to a strong dollar. Tourists are discouraged from spending their exchange in high-priced America. Correspondingly, investment income, accrued in depreciating foreign exchange in many instances, translates into fewer dollars than before. The U.S. current account balance is not in serious trouble, but it is not likely to remain as favorable as it has been in the past several months.

Our high interest rates, which are closely linked to the strength of the dollar, are causing consternation and

Corporate Profits Before Tax



contributing to poor economic performance in a number of partner countries, especially in Europe. The high rates are emulated elsewhere, in order to stem capital flight towards the United States. Business investment, housing, and durable goods purchases in other countries all suffer in the face of high interest rates, both nominal and real. This retards general world recovery, but our basic world outlook remains unchanged. Real growth in the OECD area is slowly accelerating, and we ultimately expect to see a 3% rate attained. On a world scale, the corresponding long-run rates should settle closer to 4%. Associated with this slow growth in output, we look for gradually reduced rates of inflation, coming down to the range of 7% to 9%. These are medium-term trends. When inflation drops in a lasting and convincing way, we can expect to see interest rates tumbling fast. This too will improve economic activity in some of the interest-sensitive sectors, such as fixed capital formation.

Energy

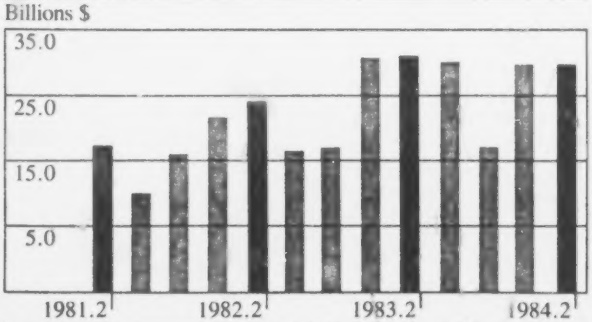
The failure of the OPEC oil ministers to agree on a revised pricing structure at their August meeting in Geneva merely underlined our own view of the world petroleum market. At least through the end of this year, we will expect no further OPEC price rises, and while we have assumed that prices will remain constant at current levels, there is a considerable possibility that the prices of several nations could fall further.

An agreement at Geneva to realign prices would not have made much of an aggregate difference to world oil buyers. The African producers' prices would have dropped several dollars while Saudi Arabia would have moved up from its current benchmark of $32 a barrel. The average OPEC price would have changed very moderately, although individual buyers might have seen their own prices dramatically adjusted.

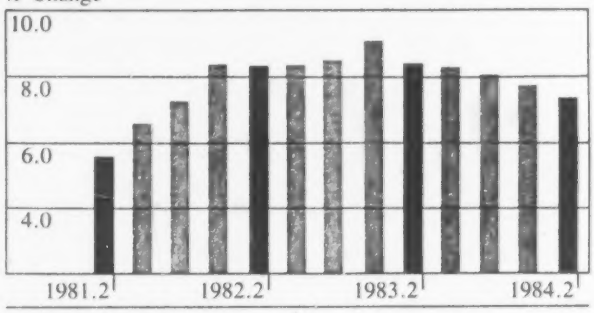
The end of the meeting was a bit of a puzzle. After seeing surprising progress towards a compromise, the Saudis seemed to think better of the whole idea, and backed away late in the week. Perhaps the Saudis had not anticipated the compromising attitude from the African producers they found in Geneva, and had not expected or desired any real progress towards an agreement. In any case, we will have to wait until December for the next OPEC meeting to see if the Saudis can further their plans for a long-term pricing strategy.

Imports of crude oil and refined products continue at low levels. We estimate the third quarter rate of imports to be 6.2 million barrels a day. This includes 350,000 barrels a day for the strategic petroleum reserve, so the current demand is below 6 million barrels a day. Compared to rates of 8.8 million barrels a day in 1977, this represents a remarkable cutback in petroleum usage. With a strengthening economy next year and in 1983, imports will rise, but not to anywhere near 1977 rates. We forecast imports at 6.4 million barrels a day in 1982 and in 1983.

Net Exports of Goods and Services



Private Compensation Per Manhour



Employment, Wages & Prices

We anticipate a rise in the unemployment rate in the fall. The rate is predicted to rise to the 7.7% mark by the first quarter of 1982. Continued high interest rates should do little to help the suffering construction sector, causing unemployment in that industry to remain high. Further, interest rates have affected employment in the automobile sector, as manufacturers find carrying large inventories prohibitively expensive. Rehiring of auto workers has been slow since the large layoffs of last year, and is not likely to pick up in the near future.

As measured by the rate of growth of the implicit deflator for GNP, inflation is expected to hover around 8.5% for the next several quarters before declining below 7.0% in the second quarter of 1983.

Two cost-side factors are serving to dampen inflation. First, food prices softened in the first half of this year, with annual rates of increase of 4.1% and 0.7% in the first and second quarters, measured by the food component of the CPI. CPI growth for all meats registered a significantly reduced growth rate of 4.9% per annum. Further, our outlook for next year's CPI growth rate for food has been revised from 9.6% down to 7.9%, which reflects weaker grain prices and improved crop conditions.

Energy is the second area contributing to decreasing inflation. OPEC oil production has not been curtailed sufficiently to eliminate an oil surplus in the Western nations. Concurrently, consumption of fuel oil in the United States is expected to decrease by 16.4% at an annual rate in the third quarter of 1981 and by 19% in the last quarter. The resulting stability of oil prices should help hold overall inflation at a relatively low level. ■

Detailed forecasts of the U.S. and world economies are available on a fee basis from Wharton EFA. Enquiries should be directed to: Business Manager, Wharton EFA, 3624 Market Street, Philadelphia, PA 19104.

Economic Prospects Under Reagan: A Skeptic's View

By Albert Ando

President Reagan's economic policy is widely believed to be aimed at the following two simple objectives:

☐ Stimulate faster growth of real output by restructuring fiscal policies so as to provide greater incentives to work, to save, and to invest, and by reallocating a substantial amount of resources from the government to the private sector.

☐ Reduce inflation by strict adherence to a gradually declining target for the rate of growth of the money supply.

A detailed examination of the fiscal actions that have been put in place indicates that the first of the above two propositions is not quite accurate. The new fiscal policies are characterized not by a dramatic reduction in the level of federal taxes and expenditures, but by a massive shift of federal expenditures from domestic and social programs to the military, and by a major redistribution of income from low to high income groups.

In Table 1, I show projections for government receipts and expenditures (national income and product account basis) for calendar years 1981 and 1982 reported by Wharton Econometric Forecasting Associates on October 25, 1980, and ones reported on July 29, 1981. The projection for October was based on the then legislative provisions, while July projections are based on the understanding by Wharton EFA economists of the Reagan economic program just passed by the Congress. The size of the total expenditure program has not changed by as much as casual reading of popular reports would lead us to believe, although the composition of expenditure has changed quite significantly.

Projected tax revenues are even more dependent on anticipated economic conditions, which are especially uncertain and subject to change at this time, as discussed below. Nevertheless, the reduction in taxes implemented by the Reagan administration appears to be substantial. I shall argue, however, that some tax reduction would have been forthcoming under any administration to counter the effects of inflation on our tax system, and the only questions involved were the timing and form of such a reduction.

The second of the objectives listed above is indeed being pursued in earnest, implying a highly restrictive monetary policy for the immediate future. I exhibit in Table 2 the historic pattern of the income velocity of money. (The ratio is extended to 1983 using the economic projections contained in the administration's Midyear Budget Review and the midpoint of the target range for the money supply announced by the Federal Reserve Board.) I believe that enormous jumps in velocity year after year cannot be brought about without further rapid rises in the nominal, short-term rate of interest. This suggests that the Reagan economic program will be successful only if the rate of inflation comes down much faster than the administration itself expects at the present time, without significantly depressing the economy over a long period of time.

In what follows, I will first review the pattern of the wage rate during the recent past in some detail in order to gain a better sense of the forces underlying wage movement in this period and in the immediate future. I will then assess whether the Reagan economic program contains the right features to affect incentives and productivity, and hence whether it is capable of altering wage-price behavior significantly. Since I believe that the answer to this question must be negative, I must conclude that there are certain inconsistencies between the policies pursued by the Reagan administration and its economic projections. I conclude this paper by suggesting a number of alternative policies which should be investigated, although they are, in a sense, more "radical" than President Reagan's program.

Wage patterns are important, both because most of us depend on our earnings for survival, and because wages form a very large part of the value of net output in the economy. The proportion of total labor income in the value added measure of output has remained remarkably stable over the years, except for a quite regular pattern of variation over the business cycle. This means that, if the economy is faced with a substantial increase in the cost of imported raw materials, such as the rise in oil prices during the 1970's, the real wage rate must become lower relative to where it would have been in the absence of such an external price rise. Moreover, this point must be understood by the general public. Otherwise, attempts by both labor and management to fight for a larger share of the reduced resources available for the economy as a whole will ensue, creating inflationary

Table 1: Projected Federal Budget

	Wharton EFA Projection October 25, 1980		Wharton EFA Projection July 29, 1981	
	1981	1982	1981	1982
Receipts, Total	612.9	690.3	628.1	661.3
Personal Tax and Non-Tax	279.0	312.6	293.7	299.2
Corporate Profit Tax	68.3	76.9	69.1	72.2
Indirect Business Tax	58.3	68.9	62.7	66.8
Contribution to Social Insurance	207.2	231.8	202.6	223.1
Expenditure, Total	662.8	735.0	683.8	742.3
Goods and Services	220.6	248.4	227.2	257.7
National Defense	149.8	171.9	153.3	179.0
Non-Defense	70.8	76.5	73.9	78.7
Transfer Payments	282.7	315.2	284.2	307.1
To Foreigners (net)	4.9	5.1	4.9	5.5
To Persons	277.8	310.0	279.3	301.5
Grants-in-Aid to State and Local Governments	90.0	94.1	87.9	81.3
Net Interest Paid	57.7	64.9	71.3	85.2
Subsidies Less Current Surplus	11.6	12.4	13.2	11.0
Deficit	−49.9	−44.8	−55.7	−81.0

pressures.

With this idea in mind, it is instructive to review the historical pattern of wage rates for the period 1974-1980 (Table 3). As expected, the average real wage rate for the private, non-agricultural sector of the U.S. economy fell sharply following the oil price rises of 1974-1975 and of 1979. But the pattern for various sectors of the economy is by no means uniform. The category labeled "Primary Metals and Transportation Equipment" has done much better than others. This is surprising because the category consists primarily of steel and automobile workers, and the auto and steel industries are precisely the ones hit hardest by the rises in oil prices. There is no evidence that productivity increased significantly more in these industries than elsewhere during this period. The financial and service sectors, on the other hand, are the ones that are taking advantage of new technology in information processing, and their shares of gross national product have been steadily rising. We would therefore expect that the wage rate in the financial and service sectors would have gained against that in the auto and steel industries, but the fact is that the opposite occurred and by a very substantial margin at that.

The only possible explanation for this pattern is the oligopolistic structure of both the labor *and* product markets in these industries. This structure enabled both labor and management in these industries to extract certain monopoly rents from the rest of the economy until competition from foreign producers became an important factor. This occurred in the late 1960's in the case of the steel industry and in the mid-1970's in the case of the automobile industry. Labor in these industries attempted to keep improving its real wage rate even after 1974, in the face both of a decline in the real wage rate prevailing in the rest of the economy and of newly emerging strong foreign competition. This exercise of oligopoly power by labor and management in two very large and important sectors substantially reinforced the inflationary pressures created by other conditions existing from 1974 on. The unemployment and other difficulties faced by these industries later on had their root partly in the exercise of this oligopoly power.

Our brief review of the structure of real wage rates makes it clear that the pattern of wage rates over time is a result of a complex set of factors, including the presence of powerful groups who are able to ensure, for as long as a few years at least, that their real wage rate be improved or at least be maintained, even while the real wage rate for the country as a whole is declining significantly. This observation strengthens the doubt that any single macroeconomic policy action, such as slowing the rate of growth of the money supply, will have a quick and dramatic effect on the rate of increase of the nominal wage rate.

The newly enacted Reagan program cuts all rates in the tax table for individuals by 25 percent over a three-year period, while leaving the definitions of the tax brackets, exemptions, and standard deductions in nominal terms unchanged.

When the tax code revision is described in this way, it appears that everyone's income tax will have been reduced by 25 percent by the end of a three-year period. This, however, is not the case. The administration's own projections indicate that the average rate of inflation for the three-year period starting in 1981 will be about 7 to 9 percent. If we suppose that the income of households goes up in nominal terms at about the rate of inflation – a conservative assumption – then income earners on average move up through tax brackets. This process is more than proportional for most taxpayers, because exemptions and the standard deduction remain constant in nominal terms. The exception is the group whose members are already in the highest tax bracket before the revision.

Table 2: Rate and Velocity Data

	Velocity[1]	Interest Rate[2]
1959	3.46	3.96
1962	3.83	3.26
1965	4.18	4.38
1968	4.52	5.90
1971	4.77	5.11
1972	4.88	4.73
1973	5.12	8.15
1974	5.28	9.84
1975	5.43	6.32
1976	5.71	5.34
1977	5.92	5.43
1978	6.16	8.00
1979	6.38	10.91
1980	6.55	12.29
1981	(6.9)[3]	—
1982	(7.4)[3]	—
1983	(8.0)[3]	—

[1]The ratio of the annual average of GNP in current dollars to the annual average of M1B.
[2]The commercial paper rate, annual average.
[3]Projected.

The Net Effects

The net effects of the reductions due to the Reagan tax revision program and of the "bracket creep" effects of inflation cannot be guessed easily. Fortunately, the Congressional Research Service of the Library of Congress has numerically computed the implications of these opposing forces, using a computer file of tax returns. The procedure employed is to start from a large, well-designed sample of tax returns for 1980, to increase incomes and other items in each return proportionately in accordance with projected inflation rates, to estimate other items as a function of income, and then to apply the marginal rate structure proposed by the Reagan administration to compute the resulting tax liabilities. The result is that very low income households with gross adjusted income of less than $15,000 come out distinctly worse off. For those households having gross adjusted income between $20,000 and $50,000, federal income tax will remain virtually unchanged. For households with gross adjusted income of more than $50,000, the tax burden will be less, and the higher their income, the more pronounced the effect will be.

It may be argued that comparison of the tax burden in 1980 with that in 1984 under the Reagan program is not proper, and that the relevant comparison should be between the 1984 tax burden under the Reagan program and what would have been the tax burden in 1984 if the 1980 statutes remained unchanged. This latter alternative, however, is simply not a realistic comparison in view of historical experience. I believe that the most reasonable alternative to the Reagan program for the purposes of comparison is a revision of the personal income tax structure that would have left its redistributional effects roughly unchanged, while at the same time keeping the proportion of the federal income tax liability relative to personal income roughly the same in aggregate. Such a program can be readily organized by redefining exemptions, standard deductions, and bracket limits to reflect the inflation that has taken place. I believe, there-

fore, that the computation of the Congressional Research Service is the most sensible and relevant comparison.

The foregoing discussion makes clear that the benefits of the Reagan tax program will almost exclusively accrue to very high income groups. Under the circumstances, the so-called supply side effects of the tax cut – greater incentives provided by the tax change for greater work effort and higher savings leading to higher productivity in the economy – must depend exclusively on the response of those individuals who belong to the top 2 percent of the income distribution. Individuals at the top of the nation's income distribution may or may not work harder and they may or may not save more as a result of the tax cut. This may lead to some small productivity gains, but it cannot produce any dramatic improvement.

In short, the Reagan program is a radical departure from the fiscal practices of the years following the Second World War only in its massive redistribution of income from the poor to the rich, and in its major reallocation of expenditures from domestic and social programs to the military. Economic projections contained in the administration's Midyear Budget Review based on this set of fiscal policies are more optimistic than the plausible range of outcomes that I can visualize, both for the rate of inflation and for the rate of growth of real output. This is true even if we assume that monetary policy will be optimally adopted to obtain a realization of these projections.

Monetary policy, however, will not be optimally adopted. As I indicated earlier, it will call for extraordinary increases in the velocity of money year after year, and I do not believe that this can be accomplished without corresponding rises in nominal rates of interest. Those who expect the nominal rate of interest to fall as soon as the expected rate of inflation is reduced are only looking at one side of a complex set of relationships, and are assuming that the real rate of interest remains constant. It is, however, perfectly possible that the expected rate of inflation falls and the nominal rate of interest rises at the same time, resulting in a significant rise in the real rate.

Some Policy Options

Are there alternatives? While adjusting the rate of growth of money, tax rates, and the level and composition of federal expenditures at the margin to accommodate developing economic conditions will be more helpful than not doing so, we need to rethink more basic issues in order to improve the performance of the American economy significantly. We must redirect government activities and tax policies to make the economy work more efficiently; to reduce unemployment of labor and resources and to increase output; to provide adequate public services for our citizens and to protect the environment; to make sure that the nation's aged and poor are cared for, without damaging their dignity; and, above all, to enable citizens to feel that government and the society are, in some sense, dealing "fairly" with them. The following list of policy options may provide a useful beginning for our thinking on these issues:

☐ The substitution of a graduated consumption tax system for the current individual income tax, and careful integration of the estate and gift taxes into this system.

☐ Comprehensive reform of the welfare and social security systems to minimize the "means test" features, together with their integration into the federal personal consumption (or income) tax system.

☐ Defining a clear distinction between the "nominal" and "real" part of interest income and payments, for both individuals and businesses, and treating only the "real" part as both taxable and deductible for tax purposes.

☐ Possible replacement in our tax system of the complex structure of depreciation allowances for capital investment by an "immediate write-off" provision.

☐ Indexation of U.S. government securities, and the use of these indexed securities for open market operations by the Federal Reserve System. In effect, this will force the Federal Reserve to focus its attention on the real rate of interest rather than on monetary aggregates or on nominal rates of interest.

These are all ideas that are not yet popular outside the circle of technical economists, and they must be publicly aired and discussed extensively before they can be considered seriously. They should, however, have a much better chance of improving the performance of the U.S. economy than the types of programs put in place by the Reagan administration, and it is certainly not too early to start thinking about them, and others like them, now. ■

Albert Ando is professor of economics at the University of Pennsylvania.

Table 3: Relative Time Pattern of Real Wages by Industry (1972 = 1.00)

Year	Total Non-Agricultural Private Sector	Primary Metals and Trans. Equipment	Other Manufacturing	Wholesaling and Retailing	Finance	Services
1965	.93	.91	.91	.96	.96	.88
1970	.94	.88	.95	.97	.99	.94
1971	.96	.92	.96	.98	.99	.96
1972	1.00	1.00	1.00	1.00	1.00	1.00
1973	1.00	1.03	1.00	.99	.99	1.00
1974	.96	.98	.97	.95	.95	.96
1975	.93	.97	.95	.92	.94	.94
1976	.94	1.03	.98	.92	.93	.95
1977	.95	1.07	.99	.92	.93	.95
1978	.95	1.09	1.00	.92	.93	.94
1979	.93	1.04	.98	.89	.90	.91
1980	.87	.99	.93	.85	.87	.88
Level for 1979 in thousands of 1979 dollars						
	(11.4)	(18.7)	(12.3)	(8.6)	(10.0)	(9.1)
Proportion of Total Work Force						
	1.00	.05	.26	.26	.07	.24

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment & Earnings*, various issues.